

From: Farhat, Jody S NWD02
Sent: Sunday, June 12, 2011 2:50 PM
To: [REDACTED] NWD
Subject: For your quick review in response to Grave's comments (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

One of the primary purposes of the Missouri River Mainstem Reservoir System is to reduce risks from floods to people, homes and businesses. Dams do not stop floods, rather they allow flood waters to be captured and then released in a controlled manner.

Releases from the Missouri River dams last fall and throughout the winter of 2010 were above normal in order to evacuate all flood waters from 2010, which was the third highest water year on record in the Missouri River Basin. On 28 January 2011, the full flood capacity of the Missouri River reservoir system was available for this year's runoff season. At that point, and all the way through the first of May, we had no reason to think we needed to increase releases beyond normal levels.

The flood of 2011 was a perfect storm of events: 1) heavy plains snow; 2) extraordinary rainfall in eastern Montana, Northern Wyoming and the western Dakota in one month (300% of normal in May); and 3) additional mountain snowpack accumulation to record levels in May and a delayed melt. During the flood of 2011, our reservoirs captured the record runoff in the Basin during May. This provided people downstream time to prepare for higher than normal releases required to make room in the reservoirs for the record mountain snowpack, which still needed to enter system. It also allowed room for additional rainfall events.

The May 2011 runoff into the Missouri River Basin above Sioux City was 10.5 MAF - our normal May runoff based on historical records is only 3.3 MAF. To put this in some perspective, 10.5 MAF would be enough water to cover the entire state of Iowa in over 3 inches of water. This was the second highest single month of runoff since 1898. The only higher was in 1952 with 13.2 MAF in April.

The Missouri River Mainstem Reservoir System, which includes 6 dams, has been operated this year in accordance with the Master Manual. The Master Manual is a water control plan that helps guide how much water should be released, when, and for how long from the 6 reservoirs for the benefit of the entire Missouri River basin. The reservoir system is multiuse and is operated for 8 Congressionally-authorized purposes - it is not optimized for any one purpose. A primary purpose is flood risk management. The reservoirs were designed to capture spring and summer runoff and allow the Corps to manage releases throughout the year to accommodate the other 7 authorized purposes: navigation, irrigation, water supply, hydropower, fish and wildlife, recreation, and water quality.

The Corps revised the Master Manual in 2004 following a 14-year period of public involvement throughout the Missouri River Basin to gain input on how the System should be operated. Hundreds of alternatives were analyzed and considered during this process. The current Master Manual reflects the input from the public and Tribes throughout the entire Basin on how the reservoirs could best be operated to serve all the purposes for which they were authorized and constructed.

Jody Farhat, P.E.

Chief, Missouri River Basin Water Management

jody.s.farhat@usace.army.mil

Office: 402-996-3840

Cell: 402-350-1417

Home: [REDACTED]

Classification: UNCLASSIFIED

Caveats: NONE

NWO

From: Farhat, Jody S NWD02
Sent: Sunday, June 12, 2011 3:07 PM
To: [REDACTED] NWO
Subject: FW: Key timeline dates (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Jody - here it is. Sorry for not sending it sooner.

-----Original Message-----

From: Farhat, Jody S NWD02
Sent: Thursday, June 09, 2011 11:30 PM
To: [REDACTED] NWD
Cc: Farhat, Jody S NWD02
Subject: Key timeline dates (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

[REDACTED] - here are the key dates

Jan 28 - minimum system storage = 56.8 MAF

April 1 forecast - Garrison summer releases = 29 kcfs; Gavins Point summer & fall releases = 39-45 kcfs; mountain snowpack 116% and 112% of normal; canceled May spring pulse

April 25 - Jody email to USFWS - no bird operations this year due to high water

May 1 forecast - Garrison summer releases = 49 kcfs; Gavins Point summer releases = 57.5 kcfs; mountain snowpack = 141% and 136% of normal peak

May 10-11 - 2.5 to 3.5 inches rain in eastern Montana

May 20 - Press release Garrison releases to increase to 60 kcfs

May 20-22 - 5-8 inches rain in eastern Montana, western South Dakota, and northern Wyoming

May 23 - Press release announcing Garrison releases to 75 kcfs, Gavins Point to 75 kcfs

May 24 - CODEL call and press release announcing Garrison releases to 85 kcfs, Gavins Point to 85 kcfs

May 25 - 1.5 to 2 inches rain in eastern Montana

May 26 CODEL call announces releases 110 to 120 kcfs from lower 5 reservoirs, 50 kcfs from Fort Peck

May 27 QPF shows additional heavy rain forecast

May 28 CODEL call announces releases to 150 kcfs from lower 5 reservoirs, 50 kcfs from Fort Peck

May 30-31 - 2-4 inches of rain in Montana

May 30 First MRJIC Stakeholder call

I'm working on the more detailed timeline, but these were the critical events.

Let me know if you have any questions.

Jody

Classification: UNCLASSIFIED

Caveats: NONE

Classification: UNCLASSIFIED

Caveats: NONE

From: Farhat, Jody S NWD02
Sent: Sunday, June 12, 2011 3:19 PM
To: desk@nbcactionnews.com
Subject: RE: Voice Message from Unknown (Not Available) (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Corps response to Congressman Graves comment:

One of the primary purposes of the Missouri River Mainstem Reservoir System is to reduce risks from floods to people, homes and businesses. Dams do not stop floods, rather they allow flood waters to be captured and then released in a controlled manner.

Releases from the Missouri River dams last fall and throughout the winter of 2010 were above normal in order to evacuate all flood waters from 2010, which was the third highest water year on record in the Missouri River Basin. On 28 January 2011, the full flood capacity of the Missouri River reservoir system was available for this year's runoff season. At that point, and all the way through the first of May, we had no reason to think we needed to increase releases beyond normal levels.

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The May 2011 runoff into the Missouri River Basin above Sioux City was 10.5 MAF - our normal May runoff based on historical records is 3.3 MAF. This was the second highest single month of runoff since 1898. The only higher was in 1952, a significant flood year, with 13.2 MAF in April. Not only is the May inflow unprecedented, but the yearly inflow is now forecast to be 54.6 MAF, more than twice the normal 24.8 MAF, and will be the highest ever.

The Missouri River Mainstem Reservoir System, which includes 6 dams, has been operated this year in accordance with the Master Manual. The Master Manual is a water control plan that helps guide how much water should be released, when, and for how long from the 6 reservoirs for the benefit of the entire Missouri River basin. The reservoir system is multiuse and is operated for 8 Congressionally-authorized purposes - it is not optimized for any one purpose. A primary purpose is flood risk management. The reservoirs were designed to capture spring and summer runoff and allow the Corps to manage releases throughout the year to accommodate the other 7 authorized purposes: navigation, irrigation, water supply, hydropower, fish and wildlife, recreation, and water quality.

The Corps revised the Master Manual in 2004 following a 14-year period of public involvement throughout the Missouri River Basin to gain input on how the System should be operated. Hundreds of alternatives were analyzed and considered during this process. The current Master Manual reflects the input from the public and Tribes throughout the entire Basin on how the reservoirs could best be operated to serve all the purposes for which they were authorized and constructed.

Jody Farhat, P.E.

Chief, Missouri River Basin Water Management

jody.s.farhat@usace.army.mil

Office: 402-996-3840

Classification: UNCLASSIFIED

Caveats: NONE

NWO

From: Farhat, Jody S NWD02
Sent: Sunday, June 12, 2011 3:22 PM
To: Lazo, Carlos J SPK
Cc: Farmer, Monique L NWO; Blechinger, Erik T NWO
Subject: RE: Question on FB (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Looks good to me.

-----Original Message-----

From: Lazo, Carlos J SPK
Sent: Sunday, June 12, 2011 3:21 PM
To: Farhat, Jody S NWD02
Cc: Farmer, Monique L NWO; Blechinger, Erik T NWO
Subject: Question on FB (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Jody,

I have the following question from the District's FB page.

"I would like to know why the outflow right now is about 30000 cfs less than the inflow at Fort Peck?"

I believe the individual who posted this question is looking at the numbers posted on our Daily Bulletin, which, as of 1451 states the inflow at Fort Peck at 91,000 and the outflow at 60,600. I have prepared a response, but would like to run it by you before posting.

My draft response;

"The current increase in inflow is a result of the rain in Montana this past week and ongoing snowmelt. We anticipate the inflow to decrease in the coming days and continue to hold outflow water releases at Fort Peck at 65,000 cfs."

V/R,

Carlos J. Lazo
Public Affairs Specialist
Work Cell: (916) 307-8738
carlos.j.lazo@usace.army.mil

Classification: UNCLASSIFIED
Caveats: NONE

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Caveats: NONE

From: Farhat, Jody S NWD02
Sent: Sunday, June 12, 2011 3:26 PM
To: 'desk@nbcactionnews.com'
Subject: Corps response to Congressman Graves Comment (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Sorry - I forgot to change the subject line on the original email. I'm resending the same email with an appropriate subject line to ensure you see this.

Thanks,
Jody

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Jody Farhat, P.E.
Chief, Missouri River Basin Water Management

jody.s.farhat@usace.army.mil
Office: 402-996-3840

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Caveats: NONE

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Caveats: NONE

2011 Missouri River Flood Talking Points
Missouri River Water Management
12 June 2011

We posted the updated reservoir forecast to the web this afternoon. The only adjustment in releases was at Fort Randall where we delayed the next increase another day to allow the Gavins Point reservoir to fall to decline slightly; the reservoir is currently about a foot higher than desired.

We will continue to make these small intrasystem adjustments throughout the summer to best balance the reservoir levels and releases. The anticipated peak releases remain the same: 65,000 cfs at Fort Peck, and 150,000 cfs at the lower 5 dams: Garrison, Oahe, Big Bend, Fort Randall and Gavins Point.

The release schedule for the 6 dams are as follows:

- Fort Peck –Releases were increase to 65,000 cfs today and will be held at that level.
- Garrison –135,000 cfs today, increasing to 140,000 cfs tomorrow and holding at that level through Wednesday, increasing to 145,000 cfs on Thursday and reaching the peak release of 150,000 cfs on Friday.
- Oahe and Big Bend –Releases will remain at the peak level of 150,000 cfs.
- Fort Randall – 137,000 cfs today and tomorrow, gradually stepping up to the peak release of approximately 148,000 cfs by the middle of next week.
- Gavins Point – 145,000 cfs today and tomorrow, then stepping up to the peak release of 150,000 cfs on Tuesday.

Peak releases are expected to continue well into August.

The forecast is based on best available information at this time; actual releases are based on conditions on the ground and are subject to change

[REDACTED] NWO

From: Farhat, Jody S NWD02
Sent: Sunday, June 12, 2011 3:55 PM
To: Farhat, Jody S NWD02; McMahon, John R BG NWD; Tipton, Robert A Col NWD; Anderson, G Witt NWD; Ruch, Robert J COL NWO; Hofmann, Anthony J COL NWK; Blechinger, Erik T NWO; [REDACTED] NWD; [REDACTED] NWK; Blair, Amy E NWK; Williamson, Eileen L NWO; Farmer, Monique L NWO; Johnston, Paul T HQ@ NWO; [REDACTED] NWD; Heers, [REDACTED] NWD; [REDACTED] NWD; [REDACTED] M NWD02; Love, Raymond E MAJ NWD; [REDACTED] NWO; [REDACTED] NWO; [REDACTED] M SAW
Cc: [REDACTED] NWD02; [REDACTED] NWD02; [REDACTED] Jr NWO; [REDACTED] D NWD02; [REDACTED] NWD02; [REDACTED] NWD02; [REDACTED] NWD02; [REDACTED] NWD02; [REDACTED] NWO; [REDACTED] NWD02
Subject: RE: WM Talking Points for 12 June stakeholder call (UNCLASSIFIED)
Attachments: 2011 Missouri River Flood Talking Points 12 Jun 2011.docx

Classification: UNCLASSIFIED

Caveats: NONE

FYI

Classification: UNCLASSIFIED

Caveats: NONE

NWO

From: Farhat, Jody S NWD02
Sent: Sunday, June 12, 2011 5:11 PM
To: Thomas, Kimberly S NWO; Ruch, Robert J COL NWO; [REDACTED] NWO
Subject: Fw: South Dakota Briefing Materials (UNCLASSIFIED)

See below for discrepancy on pump numbers.

Jody

----- Original Message -----

From: [REDACTED]@SWG
To: Farhat, Jody S NWD02
Sent: Sun Jun 12 14:32:41 2011
Subject: RE: South Dakota Briefing Materials (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Jody,

I am the ESF#3 TL in Pierre. COL Ruch sent me this info so I could prepare for the FEMA Regional Administrators visit. When going through the materials, I noticed that on the Brief slides it says 6 pumps to South Dakota, but on the fact sheet it says 4 pumps to SD.

Thought you might want to work this while you still have time.

Thanks,

[REDACTED]
ESF#3 TL, DR-1984-SD, Pierre JFO
[REDACTED]

-----Original Message-----

From: Ruch, Robert J COL NWO
Sent: Sunday, June 12, 2011 3:50 PM
To: [REDACTED] HQ; [REDACTED] SWD@SWG
Cc: [REDACTED] NWO; [REDACTED] NWO; Anderson, G Witt NWD; McMahon, John R BG NWD; [REDACTED] NWO
Subject: South Dakota Briefing Materials

Lisa/Gary,

This information will serve two purposes:

1. Prep for MG Grisoli's visit with Rep Noem
2. Prep for NWO 14 June meeting with Gov SD and FEMA

Although I have been to Pierre and Dakota Dunes several times here are two dates that might be more significant:

- 4 June - toured Dakota Dunes w/ Representative Noem
- 14 June - tour Pierre/Fort Pierre and Dakota Dunes w/ Governor Daugaard and FEMA Regional Administrator Robin Finegan

Attached you will find our updated SD Operations briefing much like the one prepared for Sen Thune. Also you will find our State Fact Sheets for all states.

Jody Farhat will send additional information in short order.

V/R,

COL Bob Ruch
Commander
Omaha District, USACE
(402) 995-2001
<https://www.nwo.usace.army.mil/>

Classification: UNCLASSIFIED
Caveats: NONE

[REDACTED] NWO

From: Farhat, Jody S NWD02
Sent: Sunday, June 12, 2011 5:51 PM
To: Hofmann, Anthony J COL NWK; [REDACTED] NWK; [REDACTED] NWK; [REDACTED] NWK; [REDACTED] NWK; McMahon, John R BG NWD; Anderson, G Witt NWD; Blechinger, Erik T NWO; Tipton, Robert A Col NWD; [REDACTED] NWD
Cc: Farhat, Jody S NWD02; [REDACTED] NWD02; [REDACTED] NWD02
Subject: FW: Deviation Modification for Lower Kansas Projects and Truman (UNCLASSIFIED)
Attachments: document2011-05-29-152504.pdf; Waverly deviation.pdf; RE: NWK Deviation (UNCLASSIFIED)

Classification: UNCLASSIFIED

Caveats: NONE

COL Hofmann,

Sir, in response to an issue raised on the NWK MCT call this afternoon, I offer the following information:

My office has been coordinating with the NWK Water Management office regarding evacuation of the tributary reservoirs prior to peak stages reaching the Kansas City area. On May 29th we received the attached deviation request, which was approved via email almost immediately and followed by a formal letter on May 31. When we learned last weekend that the district was cutting back releases from Milford and other tributary reservoirs in response to the increasing flows on the Missouri River, Kevin Grode sent the email below to Eric Shumate suggesting that the District continue to evacuate storage until the stages at Kansas City and/or Waverly reach the lower end of the published stage range with 150,000 cfs release from Gavins. Apparently this was discussed within NWK and the decision was made to reduce outflows to minimum release requirements.

It is still my position that the tributary reservoirs should be evacuated prior to peak stages being reached in the reach below Kansas City. Personally, I believe that the 29 May deviation request was sufficient to allow continued evacuation, but if the district would like to request a more specific deviation request, I would certainly approve it immediately.

The daily bulletin indicates 200,000 acre-feet of water remains to be evacuated from Milford. Based on discussions with Hydrologic Engineering in the Omaha District, they expect it will take a week or more for all the overbank storage between Gavins Point and Omaha to fill. Extend that philosophy to the reach from Omaha to Kansas City, and it appears there are several weeks remaining before peak stages from the 150,000 cfs release reach Kansas City.

I strongly encourage Kansas City District to resume evacuation of all tributary storage unless local conditions dictate another strategy.

VR,
Jody

-----Original Message-----

From: [REDACTED] NWD02
Sent: Sunday, June 12, 2011 4:12 PM
To: Farhat, Jody S NWD02
Subject: FW: Deviation Modification for Lower Kansas Projects and Truman (UNCLASSIFIED)

Classification: UNCLASSIFIED

Caveats: NONE

Jody,

The attached is the deviation we approved. Below is what I sent to [REDACTED] last Sunday. When I spoke with him last Monday he had indicated that he had spoken with [REDACTED] and that they had decided to stick with their original plan.

- [REDACTED]

[REDACTED].

[REDACTED] Deviation Team Lead

Missouri River Basin Water Management,
Northwestern Division, USACE
402. [REDACTED]
402. [REDACTED] (fax)

-----Original Message-----

From: [REDACTED] NWD02

Sent: Sunday, June 05, 2011 6:00 PM

To: [REDACTED] NWK

Subject: Deviation Modification for Lower Kansas Projects and Truman (UNCLASSIFIED)

Classification: UNCLASSIFIED

Caveats: NONE

[REDACTED]

Just throwing some words out here for you to consider.

Reference attached deviation request from May 29, 2011 - Deviation Request from Missouri River Control Points).

The extreme and historical releases being made from Gavins Point are directly related to the reservoir conditions at the upper mainstem projects. All three upper projects are currently well into their exclusive flood control pools and are expected to remain in those zones, at least until August, and perhaps later. Currently, Fort Peck is in its surcharge zone and Garrison is within inches of being in its surcharge zone.

Given the extreme flooding conditions in the mainstem system, it is necessary that tributary reservoir regulation also be considered in order to maintain proper risk management. Attached is a planning tool, which outlines a likely range of flows of stages with a Gavins Point release of 150 kcfs, that was collaboratively developed by MRBWM, NWO, NWK and the MBRFC (National Weather Service). This planning tool is being used to assist with risk reduction measures along the Missouri River from Gavins Point to the mouth.

<http://www.nwo.usace.army.mil/html/op-e/maps/WaterMgt/Below%20Gavins%20-%20Range%20of%20Flows%20and%20Stages%20-%20Final.pdf>

Kansas City - 220 kcfs to 350 kcfs (30 ft to 39 ft) Waverly - 230 kcfs to 370 kcfs (27 ft to 31 ft) Boonville - 260 kcfs to 420 kcfs (27 ft to 33 ft) Hermann - 300 kcfs to 470 kcfs (27 ft to 33 ft)

Then reference the Corps' FUI stage forecast for the next 2 weeks:

<http://www.nwd-mr.usace.army.mil/rcc/reports/internal/showrep.cgi?3STAG1>

Since the NWS forecast only goes out 5 days, it isn't going to assist with this due to travel time from the projects to each of the Missouri River stations. We could use our FUI forecast

or the NWS does produce a monthly forecast every Wednesday. Might be able to get them to produce it Monday and Friday also.

For the next 2 weeks the Missouri River stations, per this morning's FUI:

- ... Kansas City (MKCF) stage forecast does not exceed 28 feet.
- ... Waverly (WVMF) stage forecast does not exceed 26 feet.
- ... Boonville (BNMF) stage forecast does not exceed 24 feet.
- ... Hermann (HEMF) stage forecast does not exceed 23.5 feet.

Since all stations are below their respective lower end of the likely range, then releases from flood control storage zones can be made in such a manner that the total flood control release does not exceed the lower stage level. In this case, it would be Waverly (26 feet to 27 feet) that would be the adjusted control point. Per the latest rating curve, there's about an 18 kcfs difference between 26 and 27 feet at Waverly. Or we could use flows. Doesn't matter - 6 of one, half dozen of the other. However, it seems that the stage is driving factor, not the flow.

How flood control storage releases are made should be based on each project's current level of flood control storage as well as downstream constraints, such as Milford and Tuttle Creek. However, 3 weeks from now, it may be a different project. We'll have to work out how we're going to monitor/adjust through the period ... revisit every few days or after a major precipitation event ... it'll be tricky due to the travel time.

Talk to you at 8:30.

- [REDACTED]

[REDACTED]

[REDACTED] Solution Team Lead

Missouri River Basin Water Management,
Northwestern Division, USACE
402.556.5670
402.556.5650 (fax)

Classification: UNCLASSIFIED
Caveats: NONE

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Caveats: NONE

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Caveats: NONE

29 May 2011

MEMORANDUM FOR Chief, Missouri River Basin Water Management Division
(CENWD-PDR)

SUBJECT: Deviation Request from Missouri River Control Points

1. With the knowledge that the lower Missouri River will be much above flood stage for an extended period of time starting in mid-June, we request that our previous deviation be rescinded effective immediately and be replaced with this deviation request (see attachments 1 and 2 – May 10 request and May 24 approval).
2. Releases from the Missouri River reservoirs, which are already at historic levels, will be increased even more due to higher than forecasted rains in the upper basins. Releases from Gavins Point Dam are expected to reach a record 150,000 cfs by no later than mid-June. These releases are expected to be at this level until at least mid-July, if not longer.
3. The Kansas City District requests a deviation, for all NWK projects, from control points on the Missouri River to immediately begin evacuation of any stored flood control waters in NWK projects.

[REDACTED]

[REDACTED] Hydrologic Engineering Branch
Kansas City District, Corps of Engineers



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, NORTHWESTERN DIVISION
1616 CAPITOL AVENUE
OMAHA NE 68102

CENWD-PDR

31 May 2011

MEMORANDUM FOR Commander, Kansas City District (CENWK-ED-H)

SUBJECT: Deviation Request – Waverly Control Point, Missouri River

1. Reference memorandum dated 29 May 2011, CENWK-ED-HC, subject as above.
2. The request for Kansas City District deviation for all NWK projects, from control points on the Missouri River, to immediately begin evacuation of any stored flood control waters in NWK projects is approved.

FO THE COMMANDER:

JODY S. FARHAT, P.E.
Chief, Missouri River Basin Water
Management Division

CF:

CENWD-PD/Anderson

CENWD-RBT/Chandipati

[REDACTED] NWO

From: Farhat, Jody S NWD02
Sent: Sunday, June 12, 2011 5:53 PM
To: [REDACTED] SAW
Subject: RE: USACE Contingency Operations Update for 12 JUN 11 (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Don't send them. They're so watered down they don't include any information I don't already have.

Thanks for asking.

Jody

-----Original Message-----

From: [REDACTED] SAW
Sent: Sunday, June 12, 2011 4:36 PM
To: Farhat, Jody S NWD02
Subject: FW: USACE Contingency Operations Update for 12 JUN 11 (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

FYI

Do you want me to send you these every day? Let me know b/c I know you are getting lots of emails so I will stop if you tell me to.

Thanks

[REDACTED]

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Caveats: NONE

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[REDACTED] NWO

From: Farhat, Jody S NWD02
Sent: Sunday, June 12, 2011 6:02 PM
To: [REDACTED] HQ; [REDACTED] SWD@SWG
Cc: Thomas, Kimberly S NWO; [REDACTED] NWO; Anderson, G Witt NWD; McMahon, John R BG NWD; [REDACTED] NWO; Anderson, G Witt NWD
Subject: RE: South Dakota Briefing Materials (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

[REDACTED],

Below is a link to an updated Water Management briefing to be used in the prep for MG Grisoli's visit with Rep Noem.

<ftp://ftp.usace.army.mil/pub/nwd/Mo%20River%20Flood%2012%20June/>

Let me know if you have any questions,

VR,
Jody

Jody Farhat, P.E.
Chief, Missouri River Basin Water Management

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Office: 402-996-3840
Cell: 402-350-1417

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Classification: UNCLASSIFIED
Caveats: NONE

NWO

From: Farhat, Jody S NWD02
Sent: Sunday, June 12, 2011 6:06 PM
To: [REDACTED] R NWD; Farmer, Monique L NWO
Cc: [REDACTED] NWD02; [REDACTED] NWD02
Subject: RE: FW: 'normal' dam release questions - Navigation Release Portion Question (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Monique,

John's numbers are on target, but I would suggest that the answer is that water in the reservoirs is used to provide support to all authorized purposes and there are not allocations for individual project purposes.

Jody

-----Original Message-----

From: [REDACTED] NWD
Sent: Saturday, June 11, 2011 7:35 PM
To: Farmer, Monique L NWO
Cc: Farhat, Jody S NWD02; [REDACTED] NWD02; [REDACTED] NWD02
Subject: RE: FW: 'normal' dam release questions - Navigation Release Portion Question (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Monique,

I am going to defer the question to Jody Farhat, Kevin Grode and Mike Swenson for a Water Management Official Answer.

My understanding is that there is no specific storage amount allocation for Navigation. Likewise there is no specific storage allocation for Hydropower, Water Supply or any of the other project purposes.

The system is operated as a multipurpose system.

Other than during flood operations, which have operational precedence, where water goes through outlet works or spillway gates, the system normally operates with all the releases going through the hydropower turbines. Any flows set for navigation during a normal 8 month navigation season (April 1 thru 30 November) also goes through the hydropower turbines creating power for the Missouri River Basin. All the other purposes also pass through the turbines.

What some folks will be doing during and after the flood of 2011 is to second guess how we operate. They will look at navigation wanting its purpose to disappear. They will want to update the Master Manual etc and etc.

Let's say during normal navigation operations to support the eight month season compared with just operating for water supply we could release only 18,000 cfs compared to 28,000 cfs. That would end up being about 5 million acre feet of storage used for navigation.

Then they would say we could lower the March 1 pool from 54 million acre feet to 49 million acre feet providing more flood control. But you would be losing a substantial amount of hydropower, and water supply could suffer further reductions earlier in an extended drought; this will be a huge economic number.

Looking at the flood of 2011 forecasted at 54.6 million acre feet (1Jun11 estimate) passing Sioux City, the 5 million acre feet advantage would help a little, but the damage would still be nearly the same. Oh and with 71 million acre feet in the reservoirs as of today, the 5 million acre feet reduction would barely help the flood operation.

We must be accurate answering this question to the public so that it is in line with how we operate the system, per the Master Manual, the various acts and the law.

[REDACTED]
[REDACTED] cell
[REDACTED]

-----Original Message-----

From: Farmer, Monique L NWO

Sent: Saturday, June 11, 2011 6:02 PM

To: [REDACTED] NWD

Subject: FW: FW: 'normal' dam release questions (UNCLASSIFIED)

Classification: UNCLASSIFIED

Caveats: NONE

[REDACTED]
Can you help me answer this?

-----Original Message-----

From: FHD101@aol.com [mailto:FHD101@aol.com]

Sent: Saturday, June 11, 2011 3:57 PM

To: Farmer, Monique L NWO

Subject: Re: FW: 'normal' dam release questions (UNCLASSIFIED)

I thank you for your help on this but what I was looking for was the answer to this question. How much water is held in the dams to support Navigation down stream? Basically what % of the volume held is for navigation down stream?

Again I thank you guys for your efforts.

In a message dated 6/11/2011 3:08:07 P.M. Central Daylight Time,
Monique.L.Farmer@usace.army.mil writes:

<http://www.nwd-mr.usace.army.mil/rcc/reports/pdfs/finalAOP2010-2011.pdf>

Classification: UNCLASSIFIED

Caveats: NONE

[REDACTED] NWO

From: Farhat, Jody S NWD02
Sent: Sunday, June 12, 2011 6:22 PM
To: [REDACTED] SWD@SWG
Subject: RE: South Dakota Briefing Materials (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

The best source of information regarding flood stages is the NWS. I commonly use the following link to monitor observed and forecasted river conditions.
<http://water.weather.gov/ahps/forecasts.php> The other source for river information including historic information is the USGS at <http://water.usgs.gov/osw/>

Flood stage at Pierre is 13 feet; it first reached that level on May 25

Flood stage at Yankton is 20 feet; it first reached that level on Jun 3

VR,
Jody

-----Original Message-----

From: [REDACTED] SWD@SWG
Sent: Sunday, June 12, 2011 6:06 PM
To: Farhat, Jody S NWD02
Cc: [REDACTED] NWD; [REDACTED] HQ02
Subject: RE: South Dakota Briefing Materials (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Jody,
Any chance you have a data sheet that shows flood stage along the Missouri in Southj Dakota and when the river reached that flood stage along with our releases. I only see two gages that appear to be applicable, Pierre and Yankton. Just looking for Missouri at this point, no tributaries.

Anything would help. I've been web searching for hours.

Thanks for anything you might have,

[REDACTED]
ESF#3 TL, DR-1984-SD, Pierre JFO
[REDACTED]

-----Original Message-----

From: Farhat, Jody S NWD02
Sent: Sunday, June 12, 2011 6:02 PM
To: [REDACTED] HQ; [REDACTED] SWD@SWG
Cc: Thomas, Kimberly S NWO; [REDACTED] NWO; Anderson, G Witt NWD; McMahon, John R BG NWD; [REDACTED] NWO; Anderson, G Witt NWD
Subject: RE: South Dakota Briefing Materials (UNCLASSIFIED)

Classification: UNCLASSIFIED

Caveats: NONE

[REDACTED]

Below is a link to an updated Water Management briefing to be used in the prep for MG Grisoli's visit with Rep Noem.

<ftp://ftp.usace.army.mil/pub/nwd/Mo%20River%20Flood%2012%20June/>

Let me know if you have any questions,

VR,
Jody

Jody Farhat, P.E.
Chief, Missouri River Basin Water Management

jody.s.farhat@usace.army.mil

Office: 402-996-3840

Cell: 402-350-1417

-----Original Message-----

From: Ruch, Robert J COL NWO

Sent: Sunday, June 12, 2011 1:50 PM

To: [REDACTED] HQ; [REDACTED] SWD@SWG

Cc: [REDACTED] NWO; [REDACTED] A NWO; Anderson, G Witt NWD; McMahon, John R BG NWD, [REDACTED] NWO

Subject: South Dakota Briefing Materials

Lisa/Gary,

This information will serve two purposes:

1. Prep for MG Grisoli's visit with Rep Noem
2. Prep for NWO 14 June meeting with Gov SD and FEMA

Although I have been to Pierre and Dakota Dunes several times here are two dates that might be more significant:

4 June - toured Dakota Dunes w/ Representative Noem

14 June - tour Pierre/Fort Pierre and Dakota Dunes w/ Governor Daugaard and FEMA Regional Administrator Robin Finegan

Attached you will find our updated SD Operations briefing much like the one prepared for Sen Thune. Also you will find our State Fact Sheets for all states.

Jody Farhat will send additional information in short order.

V/R,

COL Bob Ruch
Commander

Omaha District, USACE
(402) 995-2001
<https://www.nwo.usace.army.mil/>

Classification: UNCLASSIFIED
Caveats: NONE

Classification: UNCLASSIFIED
Caveats: NONE

Classification: UNCLASSIFIED
Caveats: NONE

Classification: UNCLASSIFIED
Caveats: NONE

NWO

From: Farhat, Jody S NWD02
Sent: Sunday, June 12, 2011 6:28 PM
To: Farmer, Monique L NWO
Cc: [REDACTED] SWG
Subject: RE: Media Query: Columbia Tribune (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Monique - I would refer this reported to the statistics on our web page at <http://www.nwd-mr.usace.army.mil/rcc/projdata/projdata.html> and to the Master Manual. We can't be doing all her research for her. Precipitation data is available from the NWS and Snow data is available from the NRCS. After she has exhausted those sources of information, if she still has questions she can send us a pared down list.

Jody

-----Original Message-----

From: Farmer, Monique L NWO
Sent: Saturday, June 11, 2011 2:54 PM
To: Farhat, Jody S NWD02
Cc: [REDACTED] SWG
Subject: FW: Media Query: Columbia Tribune (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Jody:

Can you, Mike and Kevin provide us some assistance in getting these questions answered? See below.

V r,

Monique

----- Original Message -----

From: Keller, Rudi <rjkeller@columbiatribune.com>
To: [REDACTED] NWK
Sent: Fri Jun 10 21:02:48 2011
Subject: Information

Amy,

I would like the following information:

1. The inflow, in acre-feet or any other convenient measure, for each of the six Missouri River dams during from Sept. 1 through May 30, such as average CFS inflow rate over each month.
2. The pool level of each lake on the first day of each month and the pool level on May 30.

3. Average monthly precipitation for each in each lake watershed expressed as a percentage of normal.

4. Watershed Snowpack as a percentage of normal and average of the past 10 years. How much of this snowpack has yet to melt? Expected inflow at maximum melt? How long will the maximum melt continue?

5. The minimum inflow point since Sept. 1. I would like a system-wide date, with flows into each lake, as well as a low inflow date for each lake if different.

6. Average daily release rate at Gavins Point Dam for each of the last nine months.

7. Minimum release rate for Gavins Point Dam, per Master Manual. If the Master Manual has different rates for different dates, please include all and the dates covered by the rate directives.

8. Dates and time periods in the last nine months when release rates were at or below minimum set in Master Manual. Please explain.

9. Lake action levels. Such as, at 2230 feet elevation, Fort Peck releases are reduced to a particular CFS rate. Or, at 1422 feet, Big Bend releases 50,000 CFS.

10. Have the dams ever operated as a single unit as they are at this time? In other words, have the dams releases ever been coordinated so that five of the six match each other to control a flood?

11. Is it possible to calculate the maximum flow rate in the past nine months that would have been occurring at Gavins Point absent the six upstream dams?

Amy, I know this is a long list. I'll call on Monday.

RUDI KELLER
Columbia Daily Tribune
(573) 815-1709 (office)
(573) 382-6583 (mobile)

Classification: UNCLASSIFIED
Caveats: NONE

Classification: UNCLASSIFIED
Caveats: NONE

Classification: UNCLASSIFIED
Caveats: NONE

NWO

From: [REDACTED]
Sent: Sunday, June 12, 2011 6:06 PM
To: Farhat, Jody S NWD02
Cc: [REDACTED]
Subject: RE: South Dakota Briefing Materials (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Jody,
Any chance you have a data sheet that shows flood stage along the Missouri in Southj Dakota and when the river reached that flood stage along with our releases. I only see two gages that appear to be applicable, Pierre and Yankton. Just looking for Missouri at this point, no tributaries.

Anything would help. I've been web searching for hours.

Thanks for anything you might have,

[REDACTED]
ESF#3 TL, DR-1984-SD, Pierre JFO
[REDACTED]

-----Original Message-----

From: Farhat, Jody S NWD02
Sent: Sunday, June 12, 2011 6:02 PM
To: [REDACTED]
Cc: Thomas, Kimberly S NWO; [REDACTED]; Anderson, G Witt NWD; McMahon, John R BG NWD; [REDACTED]; Anderson, G Witt NWD
Subject: RE: South Dakota Briefing Materials (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

[REDACTED]
Below is a link to an updated Water Management briefing to be used in the prep for MG Grisoli's visit with Rep Noem.

<ftp://ftp.usace.army.mil/pub/nwd/Mo%20River%20Flood%2012%20June/>

Let me know if you have any questions,

VR,
Jody

Jody Farhat, P.E.
Chief, Missouri River Basin Water Management

[REDACTED]
Jody S Farhat@usace.army.mil
Office: 402-350-1840
Cell: 402-350-1417

-----Original Message-----

From: Ruch, Robert J COL NWO

Sent: Sunday, June 12, 2011 1:50 PM

To: [REDACTED]

Cc: Thomas, Kimberly S NWO; [REDACTED] Upmeyer, Kyia A NWO; Anderson, G Witt NWD; McMahon, John R BG NWD; [REDACTED] Ted H NWD

Subject: South Dakota Briefing Materials

[REDACTED]

This information will serve two purposes:

1. Prep for MG Grisoli's visit with Rep Noem
2. Prep for NWO 14 June meeting with Gov SD and FEMA

Although I have been to Pierre and Dakota Dunes several times here are two dates that might be more significant:

4 June - toured Dakota Dunes w/ Representative Noem

14 June - tour Pierre/Fort Pierre and Dakota Dunes w/ Governor Daugaard and FEMA Regional Administrator Robin Finegan

Attached you will find our updated SD Operations briefing much like the one prepared for Sen Thune. Also you will find our State Fact Sheets for all states.

Jody Farhat will send additional information in short order.

V/R,

COL Bob Ruch
Commander
Omaha District, USACE
[REDACTED]

<https://www.nwo.usace.army.mil/>

Classification: UNCLASSIFIED

Caveats: NONE

Classification: UNCLASSIFIED

Caveats: NONE

Classification: UNCLASSIFIED


Caveats: NONE

29 May 2011

MEMORANDUM FOR Chief, Missouri River Basin Water Management Division
(CENWD-PDR)

SUBJECT: Deviation Request from Missouri River Control Points

1. With the knowledge that the lower Missouri River will be much above flood stage for an extended period of time starting in mid-June, we request that our previous deviation be rescinded effective immediately and be replaced with this deviation request (see attachments 1 and 2 – May 10 request and May 24 approval).
2. Releases from the Missouri River reservoirs, which are already at historic levels, will be increased even more due to higher than forecasted rains in the upper basins. Releases from Gavins Point Dam are expected to reach a record 150,000 cfs by no later than mid-June. These releases are expected to be at this level until at least mid-July, if not longer.
3. The Kansas City District requests a deviation, for all NWK projects, from control points on the Missouri River to immediately begin evacuation of any stored flood control waters in NWK projects.


Chief, Hydrologic Engineering Branch
Kansas City District, Corps of Engineers



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, NORTHWESTERN DIVISION
1616 CAPITOL AVENUE
OMAHA NE 68102

CENWD-PDR

31 May 2011

MEMORANDUM FOR Commander, Kansas City District (CENWK-ED-H)

SUBJECT: Deviation Request – Waverly Control Point, Missouri River

1. Reference memorandum dated 29 May 2011, CENWK-ED-HC, subject as above.
2. The request for Kansas City District deviation for all NWK projects, from control points on the Missouri River, to immediately begin evacuation of any stored flood control waters in NWK projects is approved.

FO THE COMMANDER:

JODY S. FARHAT, P.E.
Chief, Missouri River Basin Water
Management Division

CF:
CENWD-PD/Anderson
CENWD-RBT

From: Farhat, Jody S NWD02
Sent: Sunday, May 29, 2011 3:32 PM
To: [REDACTED]
Cc: [REDACTED]; KEN Edward E. NWK; Goodnight, Rexford G NWK; Blechinger, Erik T NWK; [REDACTED] Jr NWK
Subject: RE: NWK Deviation (UNCLASSIFIED)

Name: [REDACTED]
 Email: [REDACTED]
 Phone: [REDACTED]
 Cell: [REDACTED]
 Home: [REDACTED]

Chief, Hydrologic Engineering Branch
Engineering Division
Kansas City District, Corps of Engineers
[REDACTED]
[REDACTED] Suite 547
Kansas City, MO 64108-2896
816-389-3250

1

NWO

From: [REDACTED]
Sent: Sunday, June 12, 2011 5:42 PM
To: Ruch, Robert J COL NWO
Cc: Thomas, Kimberly S NWO; Farhat, Jody S NWD02
Subject: RE: South Dakota Briefing Materials (UNCLASSIFIED)
Attachments: SD_Operations_12_Jun_2011.pdf; StateFactSheets12June2011.pdf

Classification: UNCLASSIFIED
Caveats: NONE

Sir,

Please send out the updated files. We have fixed the discrepancies.

[REDACTED]

-----Original Message-----

From: [REDACTED]
Sent: Sunday, June 12, 2011 5:18 PM
To: Farhat, Jody S NWD02; Thomas, Kimberly S NWO; Ruch, Robert J COL NWO
Subject: Re: South Dakota Briefing Materials (UNCLASSIFIED)

I will fix the discrepancies and send it back out.

Ryan Buckley
US Army Corps of Engineers
Readiness Branch - Natural Disaster Program Manager [REDACTED] (402) 490-1034

----- Original Message -----

From: Farhat, Jody S NWD02
To: Thomas, Kimberly S NWO; Ruch, Robert J COL NWO; Buckley, Ryan M NWO
Sent: Sun Jun 12 15:11:19 2011
Subject: Fw: South Dakota Briefing Materials (UNCLASSIFIED)

See below for discrepancy on pump numbers.

Jody

----- Original Message -----

From: [REDACTED] SWD@SWG
To: Farhat, Jody S NWD02
Sent: Sun Jun 12 14:32:41 2011
Subject: RE: South Dakota Briefing Materials (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Jody,

I am the ESF#3 TL in Pierre. COL Ruch sent me this info so I could prepare for the FEMA Regional Administrators visit. When going through the materials, I noticed that on the Brief slides it says 6 pumps to South Dakota, but on the fact sheet it says 4 pumps to SD.

Thought you might want to work this while you still have time.

Thanks,

[REDACTED]
ESF#3 TL, DR-1984-SD, Pierre JFO
[REDACTED]

-----Original Message-----

From: Ruch, Robert J COL NWO

Sent: Sunday, June 12, 2011 3:50 PM

To: [REDACTED]; [REDACTED]; [REDACTED]; Gary A SWDSNG

Cc: Thomas, Kimberly S NWO; [REDACTED]; [REDACTED]; Anderson, G Witt NWD; McMahon, John R BG NWD; [REDACTED]; [REDACTED]; Ted H NWO

Subject: South Dakota Briefing Materials
[REDACTED]

This information will serve two purposes:

1. Prep for MG Grisoli's visit with Rep Noem
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Jody Farhat will send additional information in short order.

V/R,

COL Bob Ruch

Commander

Omaha District, USACE
[REDACTED]

<https://www.nwo.usace.army.mil/>

Classification: UNCLASSIFIED

Caveats: NONE

Classification: UNCLASSIFIED

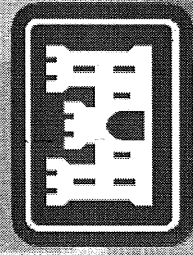
Caveats: NONE

2011 FLOOD EVENT

OMAHA DISTRICT

CONGRESSIONAL BRIEFING
SOUTH DAKOTA OPERATIONS

12 JUNE 2011



US Army Corps of Engineers
BUILDING STRONG®



Background - How we got here

- Huge rain event last month in eastern Montana, northern Wyoming and the western Dakotas.
 - ▶ As much rain in May as this region gets in a normal year
 - ▶ 300 - 600 percent of normal
- Runoff from the rain has used up much of the storage we intended to utilize to manage the snowmelt runoff.
- Record snowpack peaked late and has only just begun to runoff into the system.
- Initial release forecasts were looking at short term, immediate changes we needed to handle the rainfall event.
- Now we've had a chance to look at the longer range forecast to determine what we need to do to manage the snowmelt runoff that is poised to come into the reservoir system



Missouri River Regulation

Basin Water Management



Current Conditions and Forecast

- ▶ Garrison Dam— forecast updated daily
 - 135,000 cfs – 12 June
 - 140,000 cfs – 13 June
 - 145,000 cfs – 15 June
 - 150,000 cfs – 17 June

- ▶ Peak releases will continue well into August



Current Conditions and Forecast

- ▶ Oahe Dam— forecast updated daily
 - 150,000 cfs — today
- ▶ Big Bend Dam — forecast updated daily
 - 150,000 cfs — today
- ▶ Ft. Randall Dam— forecast updated daily
 - 140,000 cfs —12 June
 - 145,000 cfs — 14 June
 - 147,000 cfs — 15 June
- ▶ Gavins Point — forecast updated daily
 - 145,000 cfs — 13 June
 - 150,000 cfs — 14 June
- ▶ Peak releases will continue well into August



Emergency Operations South Dakota



South Dakota

- ▶ **Public Law 84-99**
- ▶ **Flood Control and Coastal Emergencies Authority (FCCE)**
- ▶ **Protect Public Infrastructure**
- ▶ **When the flooding is done, it will be a challenge to repair the infrastructure before next flood season**



South Dakota

Timeline

- Jan 28 - minimum system storage = 56.8 MAF
- April 1 forecast - Garrison summer releases = 29 kcfs; Gavins Point summer & fall releases = 39-45 kcfs; mountain snowpack 116% and 112% of normal; canceled May spring pulse
- April 25 - Jody email to USFWS - no bird operations this year due to high water
- May 1 forecast - Garrison summer releases = 49 kcfs; Gavins Point summer releases = 57.5 kcfs; mountain snowpack = 141% and 136% of normal peak
- May 10-11 - 2.5 to 3.5 inches rain in eastern Montana
- May 20 - Press release Garrison releases to increase to 60 kcfs
- May 20-22 - 5-8 inches rain in eastern Montana, western South Dakota, and northern Wyoming
- May 23 - Press release announcing Garrison releases to 75 kcfs, Gavins Point to 75 kcfs
- May 24 - CODEL call and press release announcing Garrison releases to 85 kcfs, Gavins Point to 85 kcfs
- May 25 - 1.5 to 2 inches rain in eastern Montana
- May 25- Received a request for Technical and Direct Assistance from the State of South Dakota for the cities of Pierre and Fort Pierre.
- May 25 - USACE Omaha District technical and contracting team on the ground in Pierre and Fort Pierre
- May 26 CODEL call announces releases 110 to 120 kcfs from lower 5 reservoirs, 50 kcfs from Fort Peck
- May 27 QPF shows additional heavy rain forecast
- May 28 CODEL call announces releases to 150 kcfs from lower 5 reservoirs, 50 kcfs from Fort Peck
- May 28 - USACE Omaha District awards a construction contract for risk reduction measures under Emergency Operations for the cities of Pierre and Fort. Pierre
- May 29 - USACE Omaha District awards a modification to the construction contracts in Pierre and Fort Pierre due to the increased releases from Oahe Dam.
- May 29 - Received a request for Direct Assistance from the State of South Dakota for the city of Dakota Dunes.
- May 30-31 - 2-4 inches of rain in Montana
- May 30 First MRJIC Stakeholder call
- June 1- USACE Omaha District awards a construction contract for risk reduction measures under Emergency Operations for the city of Dakota Dunes.
- June 4 - Risk reduction measures in Pierre and Ft. Pierre are completed and turned over to the cities.
- June 11 - Risk reduction measures in Dakota Dunes are completed and turned over to the cities.



South Dakota

- ▶ Resources Deployed
 - 10.8 Million Sandbags
 - 758 Rolls of 100'x20' Plastic Sheeting
 - 4 Pumps
 - 2 Additional pumps to be deployed on Monday/Tuesday to Ft. Pierre/Pierre



South Dakota

► Pierre

2 miles of clay levees, 5.5 – 6.0 feet average levee height \$4.2 Million, Construction Completed 4 Jun 2011. The height of the levee in relation to the gage is 22'

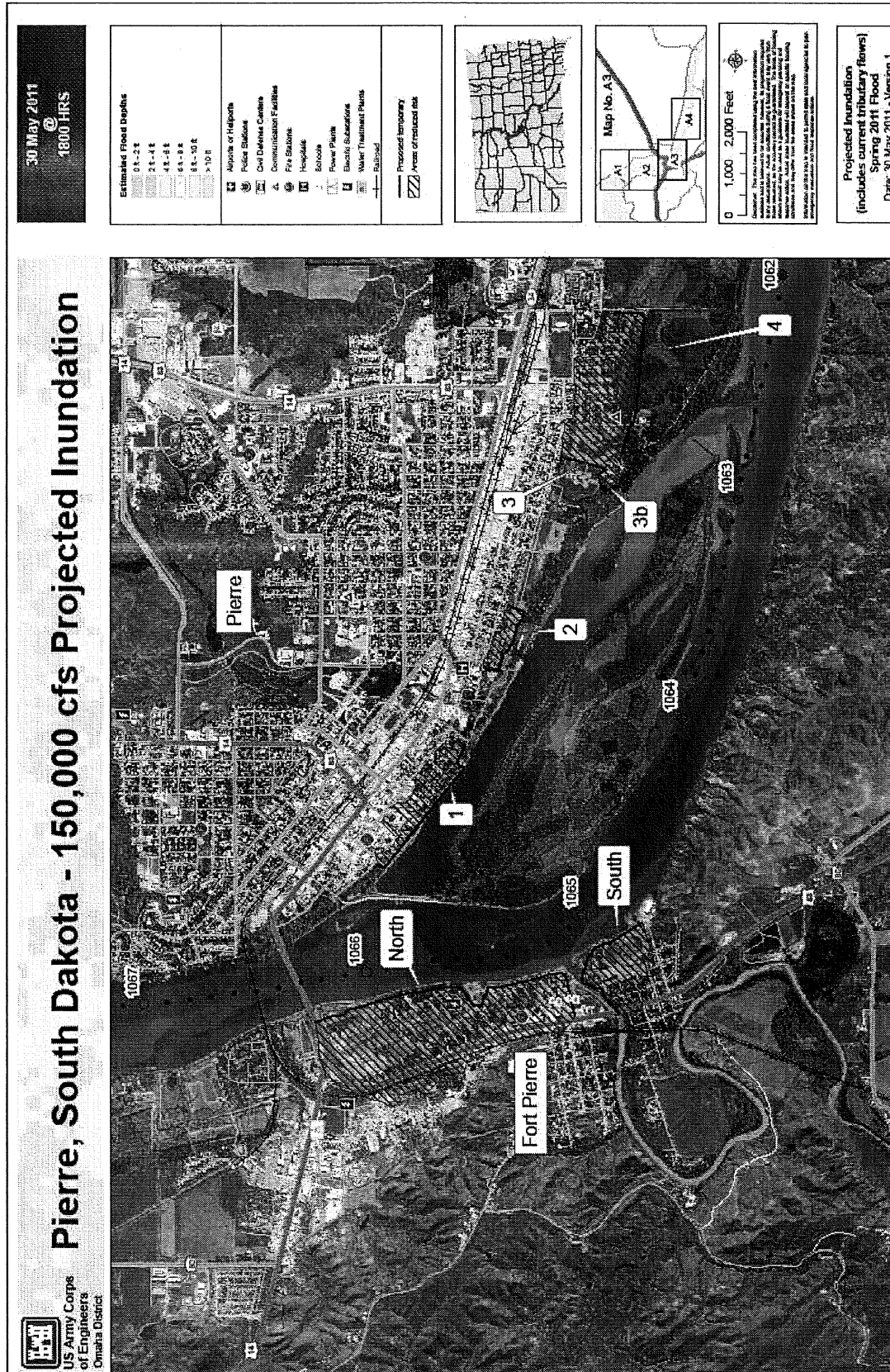
► Ft. Pierre

2 miles of clay levees, 5 feet average levee height \$5.95 million. The height of the levee in relation to the gage is 22'

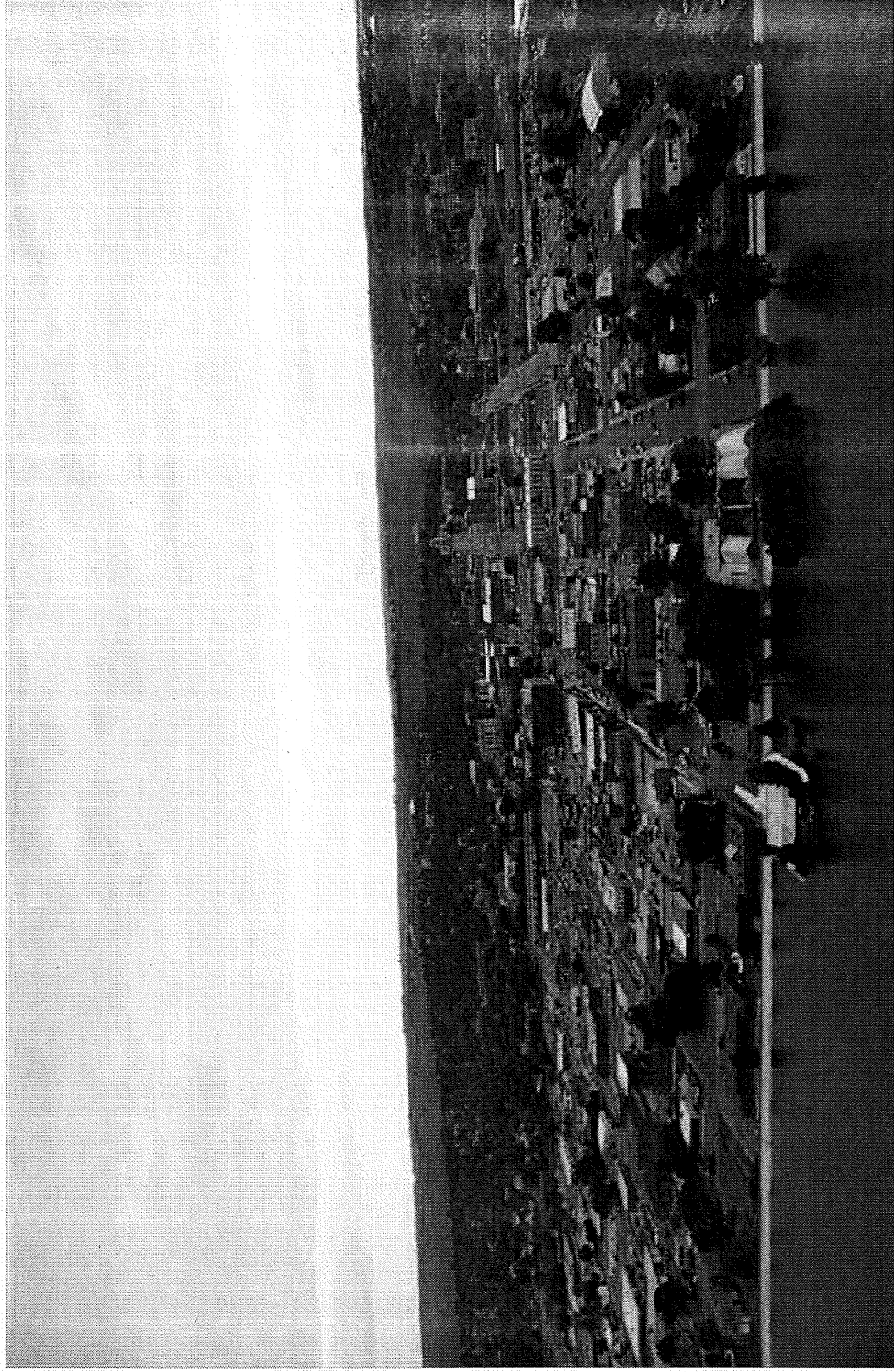
Construction complete on 04 June 2011.



Pierre and Ft. Pierre Inundation Map



Pierre / Ft. Pierre, South Dakota



Pierre / Ft. Pierre, South Dakota

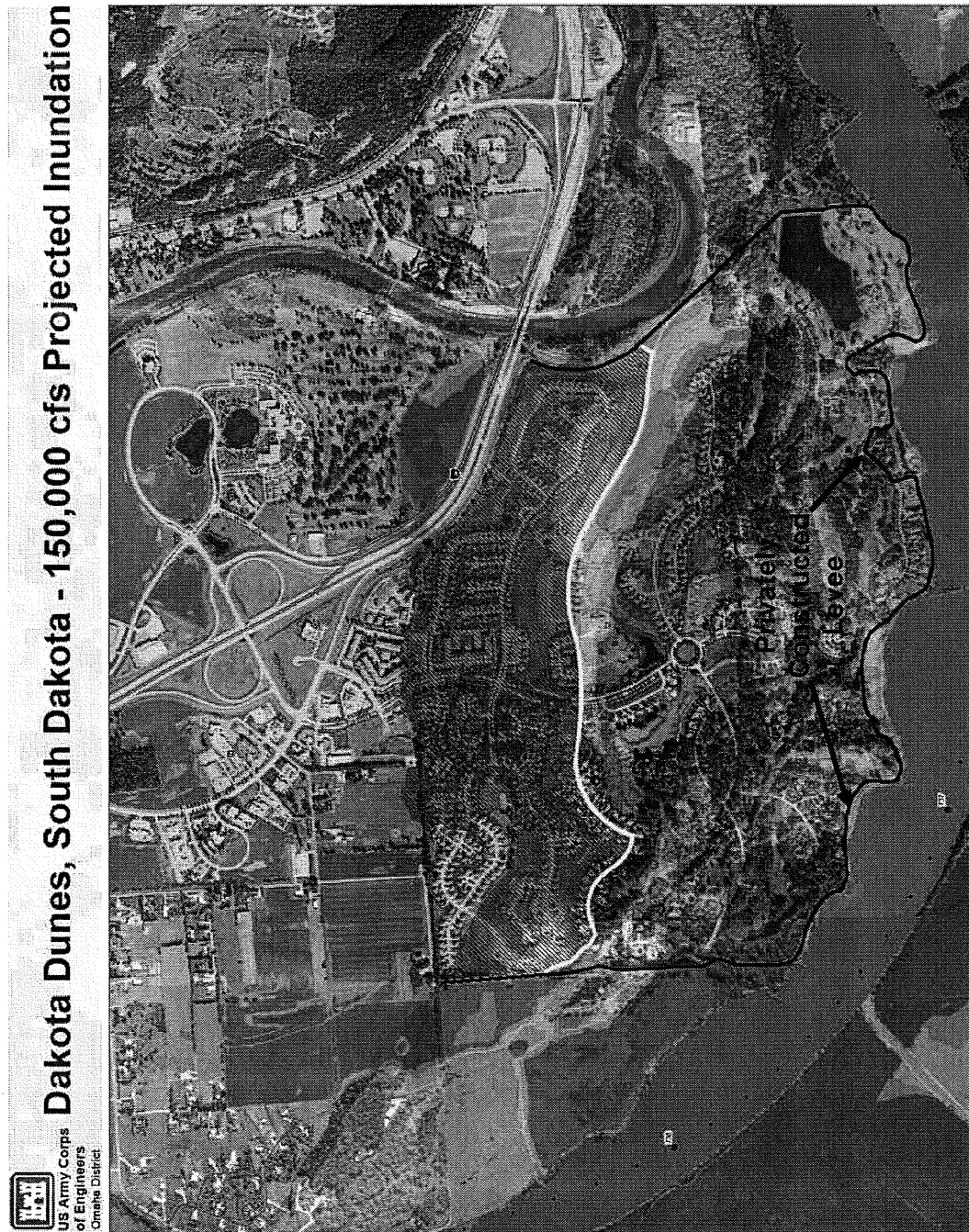


South Dakota

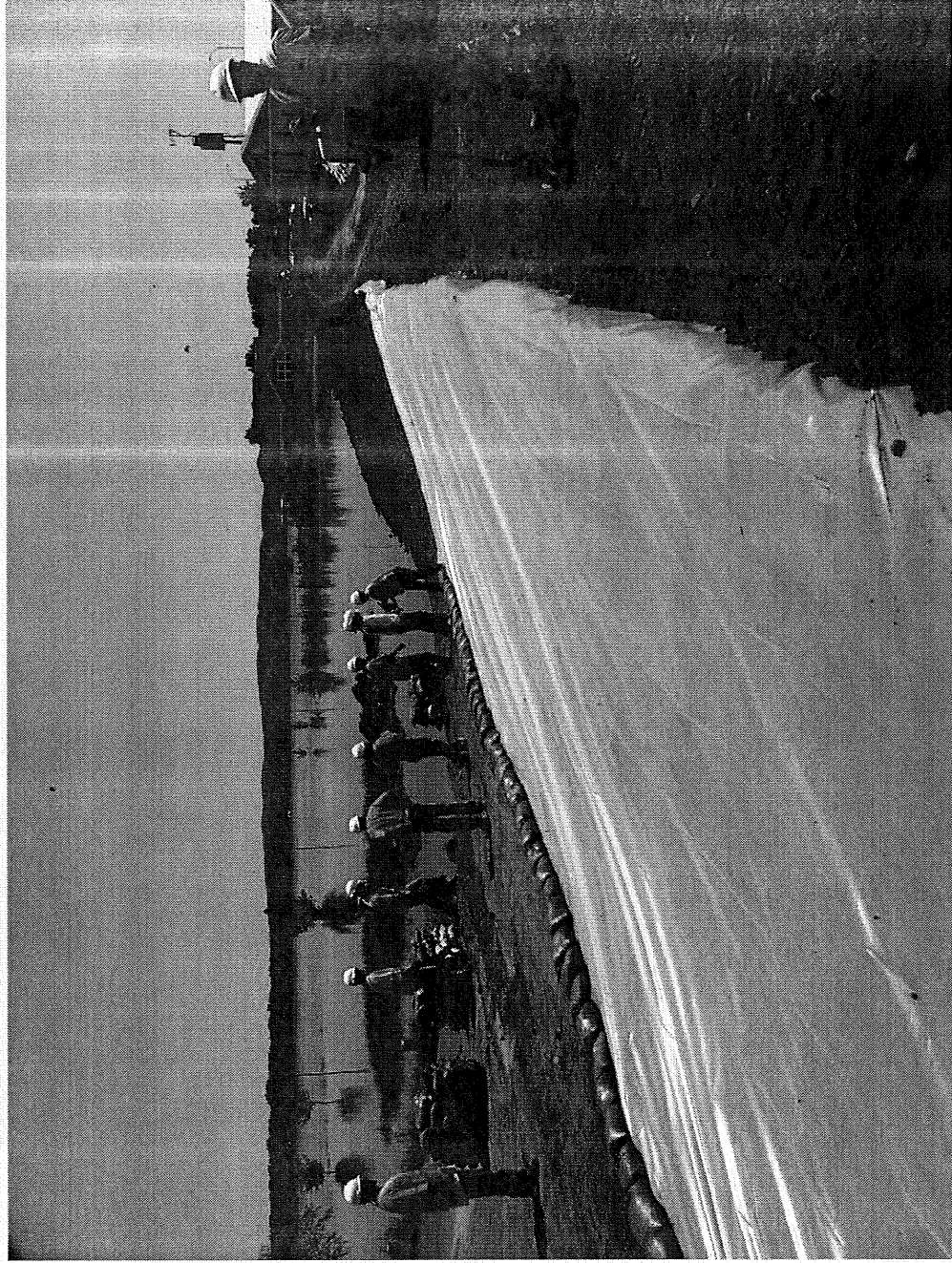
- Dakota Dunes
 - ▶ 1.5 miles of clay levees, \$1.83 million. The height of the levee in relation to the gage is 1100' (88Datum)
 - ▶ Construction complete on 11 June 2011.



Dakota Dunes Inundation Map (South Levee is a privately constructed levee)



Dakota Dunes



BUILDING STRONG®

South Dakota

■ Technical Assistance

- ▶ Clay County
 - Technical Assistance for erosions issues
- ▶ Pierre
 - Request 2 x 16" Pumps
 - ULA working this issue
- ▶ Yankton Sioux Tribe
 - Technical assistance for erosion issue
- ▶ City of Yankton
 - Technical assistance for erosion issue



South Dakota Dam Safety

- ▶ We have a vigilant dam safety program. Our dams are routinely inspected and maintained on rigid schedules and are well-prepared to handle the floodwaters.
- ▶ Our dams are routinely inspected on an annual basis and undergo an even more rigorous evaluation every five years. Our dams are evaluated for safety in accordance with the Federal Guidelines for Dam Safety originally issued in 1979 and revised in 2005.
- ▶ There is no risk of our dams being overtopped during this event. However, the water is in our exclusive flood control zone and near the top of our spillway gates. If the reservoir rises to the top of the spillway gates, we have to open the spillway gates and release water beneath the gates. The spillway gates are considerably lower than the top of the dam and are not designed to have water flowing over the top of them.



South Dakota

Dam Safety

- ▶ The dams on the Upper Missouri – Fort Peck, (Montana.), Garrison Dam (N.D.), Oahe Dam, Big Bend Dam, and Fort Randall Dam (all of S.D.) and Gavins Point (S.D./Neb.) are fully functional and operating as designed.
- ▶ The system is protecting the public from unregulated flows. Unregulated flows – which occur when flood waters flow uncontrolled in a spillway -- would result in significantly more damage. There is no evidence to suggest an emergency situation at any of our dams, and all projects are operating within their design parameters.
- ▶ Our extensive instrumentation program allows us to closely monitor areas of interest such as seepage pressure and any minor movement. We've also re-evaluated seismic designs as the state of practice has evolved over recent decades





Montana

Flood Fight 2011 Mitigation Actions

As of 12 June 2011 – 1400 hrs

USACE Personnel on the Ground

Ft. Peck – 5

Details on Contracts

Roundup, MT (sanitary lift station)

120 LF

Earthen Levee

5.5 ft in height

\$84k

Project stopped due to heavy rains and flooded work site

Contract has been cancelled

Materials Deployed

Deployed 538,900 Sandbags

Currently have 102,000 Sandbags on hand

Deployed 240 Rolls of Poly

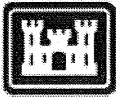
Currently have 90 rolls of Poly on hand

Deployed 4 pumps

Currently have 0 pumps on hand

Daily Calls

Governor, Congressional Offices, Tribes, etc. – 1700 hrs daily



North Dakota Flood Fight 2011 Mitigation Actions

As of 12 June 2011 – 1700 hrs

USACE Personnel on the Ground

Williston – 6
Garrison -4
Bismarck/Mandan -2
Ft. Yates - 1
ND EOC - 1

Details on Contracts

Bismarck/Mandan

- Contract No. 1 – Segment D
5,500 LF
Earthen Levee
2 to 8 feet in height
\$1.4 M
Contract Completion 05 Jun 2011
- Contract No. 2 – Segment E & F
10,500 LF
Earthen Levee
Seg E: 3'; Seg F: 2-6' in height
\$393 K
Contract Completion 05 Jun 2011
- Contract No. 3 – Segment A & C
56,500 LF
Seg A: Earthen Levee; Seg C: Trapbags
Seg A: 2-5'; Seg C: 6' in height
\$1.07 M
Contract Completion 05 Jun 2011
- Contract No. 4 – Prairie Rose Elementary School
750 LF
Trapbags
6' in height
\$305 K
Contract Completion 05 Jun 2011
- Contract No. 5 – Mandan
18,500 LF
Earthen Levee and Hescos
2 to 5' in height
\$2.1 M
Contract Completion 05 Jun 2011
- Contract No. 6 – Burleigh Ave, Segment B & E (northern section), 48th Ave
17,120 LF
Earthen Levee, Hescos and Trapbags
2 to 8' in height
\$2.47 M
Contract Completion 05 Jun 2011

Standing Rock Sioux Tribe

- Contract No. 1
Sitting Bull and Ft. Yates water intake erosion (90% complete)
Riprap - 690 Tons
Spalls - 255 Tons
Underwater Fill - 285 Tons
\$72k
Contract Completion 05 Jun 2011
Modification has been awarded to add in erosion protection along the Ft. Yates levee (80% complete)
Working additional modifications for 60 LF of protection erosion protection near the Tribal Headquarters and an extension to the Ft. Yates intake



North Dakota Flood Fight 2011 Mitigation Actions

As of 12 June 2011 – 1700 hrs

■ Contract No. 2

Erosion protection along causeway in Ft. Yates (North Side)

Total – Approximately .75 miles each side

Riprap – 5,000 Tons per side

\$310k

Contractor has mobilized and is beginning today.

Contract Completion 17 June 2011

Option for \$290,000 for the south side protection will be awarded today, 06 June 2011

Total – Approximately .75 miles each side

Riprap – 5,000 Tons per side

Contract completion will be 14 days after the North side is complete

Materials Deployed

Deployed 1.8 million Sandbags

Deployed 10,800 LF of Hescos

Deployed 403 Rolls of Poly

Deployed 5 pumps

Daily Calls

Governor, Congressional Offices, Tribes, Media, etc. – 1700 hrs daily



South Dakota Flood Fight 2011 Mitigation Actions

As of 12 June 2011 – 1730 hrs

USACE Personnel on the Ground

Standing Rock Sioux Tribe – 1
Ft. Pierre/Pierre - 4
Dakota Dunes – 4
Ft. Peck Project Office - 6
Oahe Dam Surveillance - 3
SD EOC – 1

Details on Contracts

Ft. Pierre

2 miles of Clay levee
Avg Height = 5.5 to 6 feet
\$5.95M
Contract Completion 04 Jun 2011

Pierre

2 miles of Clay levee
Avg Height = 5 ft
\$4.2M
Contract Completion 04 Jun 2011

Dakota Dunes

1.5 miles of clay levee
Storm Drain Closures – 14 EA
\$1.83M
Contract Completion 11 Jun 2011

Standing Rock Sioux Tribe

- Contract No. 1
Sitting Bull and Ft. Yates water intake erosion (90% complete)
Riprap - 690 Tons
Spalls - 255 Tons
Underwater Fill - 285 Tons
\$72k
Contract Completion 05 Jun 2011
Modification has been awarded to add in erosion protection along the Ft. Yates levee (80% complete)
Working additional modifications for 60 LF of protection erosion protection near the Tribal Headquarters and an extension to the Ft. Yates intake
- Contract No. 2
Erosion protection along causeway in Ft. Yates (North Side)
Total - Approximately .75 miles each side
Riprap - 5,000 Tons per side
\$310k
Contractor has mobilized and is beginning today.
Contract Completion 17 June 2011
Option for \$290,000 for the south side protection will be awarded today, 06 June 2011
Total - Approximately .75 miles each side
Riprap - 5,000 Tons per side
Contract completion will be 14 days after the North side is complete

Materials Deployed

Deployed 10.8 million Sandbags
Deployed 758 Rolls of Poly
Deployed 4 pumps – 2 additional pumps will be delivered to Ft. Pierre/Pierre on Monday or Tuesday

Daily Calls

Governor, Congressional Offices, Tribes, Media, etc. – 1700 hrs daily



Nebraska Flood Fight 2011 Mitigation Actions

As of 12 June 2011 – 1700 hrs

USACE Personnel on the Ground

Lincoln – 1
North Platte – 5
Offutt – 1
South Sioux City – 2

Details on Contracts

North Platte

- White Horse Creek
0.5 mile ditch, Hesco
6 Ft deep x 25Ft wide, Hesco around electrical control room
\$1.95K
Contract/Mods Completed 30 May
- City Contract
3 Miles - New Levee, Raise Levee, Hesco, Sandbags
Ave Height = 1.5 to 4 feet
\$1.5M
Contract Completed 05 June 2011
- Sewage Lift Station
Hesco Ring
Ave Height = 4 feet
\$50K
Contract Completed 02 June 2011
- Cody Dillion Ditch
Hesco Ring
Ave Height = 4 feet
\$50K
Contract Completed 02 June 2011

Airport Levee

4000 Ft Levee Raise
To 1' above proposed elevation at 9000cfs flow
\$194,346
Contract Completion 14 June 2011

Dakota City

700 Ft.
Clay levee
Ave Height = 5 ft
\$0.2M
Contract Completed 07 Jun 2011

South Sioux City

11,000 Ft.
Clay levee and raise road
Ave Height = 2 to 5 feet
\$1.7M
Contract Completed 08 Jun 2011

Levee R613/R616

Raise low areas approx. 8000 Ft.
Ave Height = 2 feet
Sandbags - AF providing labor
\$59,570
Contract Completed 11 June 2011

Materials Deployed

Deployed 1,019,000 Sandbags



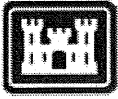
Nebraska Flood Fight 2011 Mitigation Actions

As of 12 June 2011 – 1700 hrs

Deployed 2,274 3' Hescos
Deployed 3,400 4' Hescos
Deployed 152 Rolls of Poly
Deployed 7 pumps

Daily Calls

Governor, Congressional Offices, Tribes, etc. – 1700 hrs daily



Iowa Flood Fight 2011 Mitigation Actions

As of 12 June 2011 – 1700 hrs

USACE Personnel on the Ground

Sioux City – 5
Hamburg - 4
IA EOC – 0

Details on Contracts

Sioux City, IA water well protection and access road build. Award was made to Niewohner Construction, Inc. \$370,250.00 Contract Number W9128F-11-C-0041, dated 10 June 2011.

L575 Emergency Levee Repair-W9128F-8-D-0031, TO0012 \$400,000

L575 Emergency Levee Repair/Ditch 6, Hamburg, IA-W9128F-8-D-0031, TO0012 Mod 1, \$2.5M

Technical Assistance

Woodbury County – Flood Inundation review, 750K sandbags, 500 rolls of poly, 2 -12" pumps and local levee construction support to Sioux City and Port Neal area. Construction contract (listed above) for protection of two municipal wells, access road and protection of ten-transformer pads is ongoing

Monona County – Flood inundation review and one-12", one-16" & three-8" pump for Blencoe area

Harrison County – Flood Inundation review, 160K sandbags. four 12" pumps.

Pottawattamie County – Flood Inundation review, Levee inundation and flood review with Council Bluffs Public Utilities, 50K sandbags and 4700 LF Hescos

Mills County – Flood inundation review, Town Hall meetings on 6 & 7 Jun 11; sand bag filler machine; technical review for their berm construction projects.

Fremont County – Flood Inundation review, two levee reviews, levee repair request, sand bag filler machine, a 12" and 16" pump, 120 2 emergency levee 575 repairs and construction of Ditch 6, Hamburg, IA, including providing 120 rolls of poly and 37K of sandbags, 3,000LF of 4' HESCOs

Materials Deployed

Deployed 1.17 Million Sandbags

Deployed 695 rolls of Poly

12,710 4' Hescos

25 – 3K lb sandbags

6 – 1.5k LB sandbags

1 – Sand bag filler machine

5 pumps

Daily Calls

State of Iowa – 1430 hrs daily

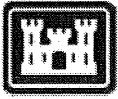
Governor, Congressional Offices, Tribes, etc – 1700 hrs daily

Communities/Public Agencies Contacted/Consulted

Woodbury County

Sioux City, IA

Mid America Energy (Port Neal)



Iowa Flood Fight 2011 Mitigation Actions

As of 12 June 2011 – 1700 hrs

Monona County

Onawa, IA

Blencoe, IA

Harrison County

Desoto Bend National Wildlife Refuge

Pottawattamie County

Council Bluffs, IA

Mid America Energy (Council Bluffs, IA)

Mills County

Glenwood, IA

Pacific Junction, IA

Fremont County

Hamburg, IA



Wyoming Flood Fight 2011 Mitigation Actions

As of 12 June 2011 – 1400 hrs

USACE Personnel on the Ground

Details on Contracts

No contracts pending or awarded

Materials Deployed

Elk Mountain

1,300 LF of Hesco (library, townhall, school and post office)

3,000 Sandbags

Labor provided by 12 Army/Air Force Wyoming National Guard

Material and equipment provided by Wyoming DOT

Completed 1 June 2011

State of Wyoming

Provided 300,000 Sandbags

Daily Calls

Governor, Congressional Offices, Tribes, Media, etc. – 1700 hrs daily

Communities/Public Agencies Contacted/Consulted

Lander

Dubois

Wind River Reservation, Eastern Shoshone and Northern Arapaho Tribes

Fort Washakie

Ethete

Fremont County Transportation Dept.

Riverton

Hudson

Torrington

Fort Laramie

Goshen County

Natrona County

[REDACTED] NWO

From: [REDACTED]
Sent: Sunday, June 12, 2011 4:33 PM
To: Farhat, Jody S NWD02
Subject: RE: South Dakota Briefing Materials (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Jody,
I am the ESF#3 TL in Pierre. COL Ruch sent me this info so I could prepare for the FEMA Regional Administrators visit. When going through the materials, I noticed that on the Brief slides it says 6 pumps to South Dakota, but on the fact sheet it says 4 pumps to SD.

Thought you might want to work this while you still have time.

Thanks,

[REDACTED]
ESF#3 TL, DR-1984-SD, Pierre JFO
[REDACTED]

-----Original Message-----

From: Ruch, Robert J COL NWO
Sent: Sunday, June 12, 2011 3:50 PM
To: [REDACTED]
Cc: Thomas, Kimberly S NWO; [REDACTED]; Anderson, G Witt NWD; McMahon, John R BG NWD; [REDACTED] NWO
Subject: South Dakota Briefing Materials
[REDACTED]

This information will serve two purposes:

1. Prep for MG Grisoli's visit with Rep Noem
2. Prep for NWO 14 June meeting with Gov SD and FEMA

Although I have been to Pierre and Dakota Dunes several times here are two dates that might be more significant:

- 4 June - toured Dakota Dunes w/ Representative Noem
- 14 June - tour Pierre/Fort Pierre and Dakota Dunes w/ Governor Daugaard and FEMA Regional Administrator Robin Finegan

Attached you will find our updated SD Operations briefing much like the one prepared for Sen Thune. Also you will find our State Fact Sheets for all states.

Jody Farhat will send additional information in short order.

V/R,

COL Bob Ruch

Commander
Omaha District, USACE


<https://www.nwo.usace.army.mil/>

Classification: UNCLASSIFIED

Caveats: NONE

NWO

From: Anderson, G Witt NWD
Sent: Sunday, June 12, 2011 4:13 PM
To: Farhat, Jody S NWD02
Subject: FW: South Dakota Briefing Materials (UNCLASSIFIED)
Attachments: SD_Operations_12_Jun_2011.pdf; StateFactSheets12June2011.pdf

Classification: UNCLASSIFIED
Caveats: NONE

Jody, fyi and for your update msg of the briefing on the ftp site. Thanks,

Witt

-----Original Message-----

From: Ruch, Robert J COL NWO
Sent: Sunday, June 12, 2011 1:50 PM
To: [REDACTED]
Cc: Thomas, Kimberly S NWO; [REDACTED] A NWO; Anderson, G Witt NWD; McMahon, John R BG NWD; [REDACTED]
Subject: South Dakota Briefing Materials

Lisa/Gary,

This information will serve two purposes:

1. Prep for MG Grisoli's visit with Rep Noem
2. Prep for NWO 14 June meeting with Gov SD and FEMA

Although I have been to Pierre and Dakota Dunes several times here are two dates that might be more significant:

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Jody Farhat will send additional information in short order.

V/R,

COL Bob Ruch
Commander
Omaha District USACE
[REDACTED]

<https://www.nwo.usace.army.mil/>

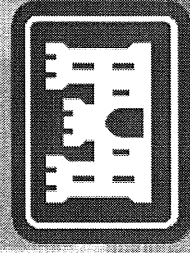
Classification: UNCLASSIFIED
Caveats: NONE

2011 FLOOD EVENT

OMAHA DISTRICT

CONGRESSIONAL BRIEFING
SOUTH DAKOTA OPERATIONS

12 JUNE 2011



US Army Corps of Engineers
BUILDING STRONG®



Background - How we got here

- Huge rain event last month in eastern Montana, northern Wyoming and the western Dakotas.
 - ▶ As much rain in May as this region gets in a normal year
 - ▶ 300 - 600 percent of normal
- Runoff from the rain has used up much of the storage we intended to utilize to manage the snowmelt runoff.
- Record snowpack peaked late and has only just begun to runoff into the system.
- Initial release forecasts were looking at short term, immediate changes we needed to handle the rainfall event.
- Now we've had a chance to look at the longer range forecast to determine what we need to do to manage the snowmelt runoff that is poised to come into the reservoir system



Missouri River Regulation

Basin Water Management



Current Conditions and Forecast

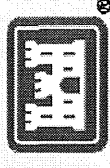
- ▶ Garrison Dam— forecast updated daily
 - 135,000 cfs – 12 June
 - 140,000 cfs – 13 June
 - 145,000 cfs – 15 June
 - 150,000 cfs – 17 June

- ▶ Peak releases will continue well into August



Current Conditions and Forecast

- ▶ Oahe Dam— forecast updated daily
 - 150,000 cfs – today
- ▶ Big Bend Dam – forecast updated daily
 - 150,000 cfs – today
- ▶ Ft. Randall Dam— forecast updated daily
 - 140,000 cfs –12 June
 - 145,000 cfs – 14 June
 - 147,000 cfs – 15 June
- ▶ Gavins Point – forecast updated daily
 - 145,000 cfs – 13 June
 - 150,000 cfs – 14 June
- ▶ Peak releases will continue well into August



Emergency Operations South Dakota



South Dakota

- ▶ **Public Law 84-99**
- ▶ **Flood Control and Coastal Emergencies Authority (FCCE)**
- ▶ **Protect Public Infrastructure**
- ▶ **When the flooding is done, it will be a challenge to repair the infrastructure before next flood season**



South Dakota

Timeline

- Jan 28 - minimum system storage = 56.8 MAF
- April 1 forecast - Garrison summer releases = 29 kcfs; Gavins Point summer & fall releases = 39-45 kcfs; mountain snowpack 116% and 112% of normal; canceled May spring pulse
- April 25 - Jody email to USFWS - no bird operations this year due to high water
- May 1 forecast - Garrison summer releases = 49 kcfs; Gavins Point summer releases = 57.5 kcfs; mountain snowpack = 141% and 136% of normal peak
- May 10-11 - 2.5 to 3.5 inches rain in eastern Montana
- May 20 - Press release Garrison releases to increase to 60 kcfs
- May 20-22 - 5-8 inches rain in eastern Montana, western South Dakota, and northern Wyoming
- May 23 - Press release announcing Garrison releases to 75 kcfs, Gavins Point to 75 kcfs
- May 24 - CODEL call and press release announcing Garrison releases to 85 kcfs, Gavins Point to 85 kcfs
- May 25 - 1.5 to 2 inches rain in eastern Montana
- May 25- Received a request for Technical and Direct Assistance from the State of South Dakota for the cities of Pierre and Fort Pierre.
- May 25 - USACE Omaha District technical and contracting team on the ground in Pierre and Fort Pierre
- May 26 CODEL call announces releases 110 to 120 kcfs from lower 5 reservoirs, 50 kcfs from Fort Peck
- May 27 QPF shows additional heavy rain forecast
- May 28 CODEL call announces releases to 150 kcfs from lower 5 reservoirs, 50 kcfs from Fort Peck
- May 28 - USACE Omaha District awards a construction contract for risk reduction measures under Emergency Operations for the cities of Pierre and Fort. Pierre
- May 29 - USACE Omaha District awards a modification to the construction contracts in Pierre and Fort Pierre due to the increased releases from Oahe Dam.
- May 29 - Received a request for Direct Assistance from the State of South Dakota for the city of Dakota Dunes.
- May 30-31 - 2-4 inches of rain in Montana
- May 30 First MRJIC Stakeholder call
- June 1- USACE Omaha District awards a construction contract for risk reduction measures under Emergency Operations for the city of Dakota Dunes.
- June 4 - Risk reduction measures in Pierre and Ft. Pierre are completed and turned over to the cities.
- June 11 - Risk reduction measures in Dakota Dunes are completed and turned over to the cities.



South Dakota

- ▶ Resources Deployed
 - 10.8 Million Sandbags
 - 758 Rolls of 100'x20' Plastic Sheeting
 - 6 Pumps



South Dakota

► Pierre

2 miles of clay levees, 5.5 – 6.0 feet average levee height \$4.2 Million, Construction Completed 4 Jun 2011. The height of the levee in relation to the gage is 22'

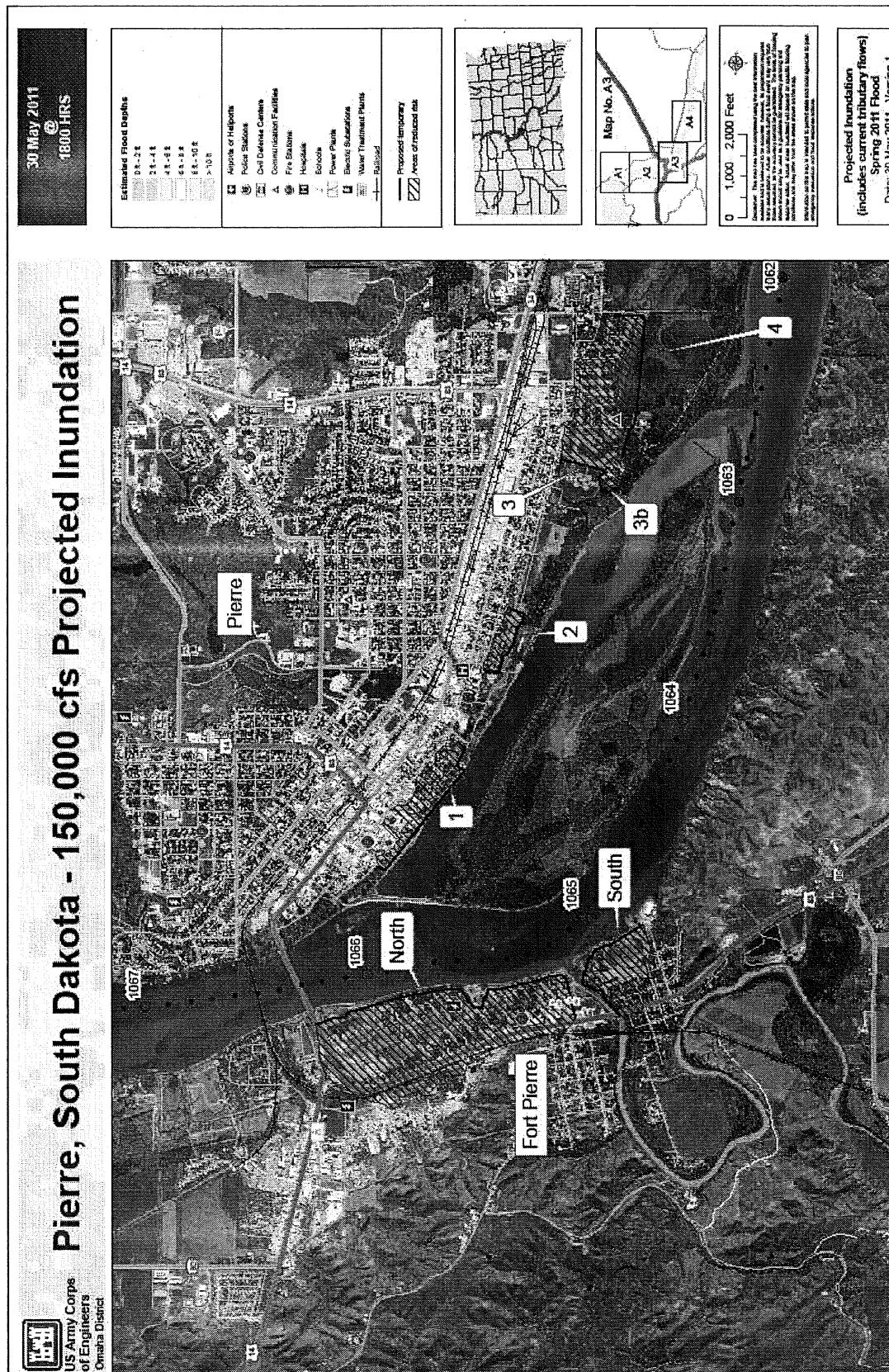
► Ft. Pierre

2 miles of clay levees, 5 feet average levee height \$5.95 million. The height of the levee in relation to the gage is 22'

Construction complete on 04 June 2011.



Pierre and Ft. Pierre Inundation Map



Pierre / Ft. Pierre, South Dakota



Pierre / Ft. Pierre, South Dakota

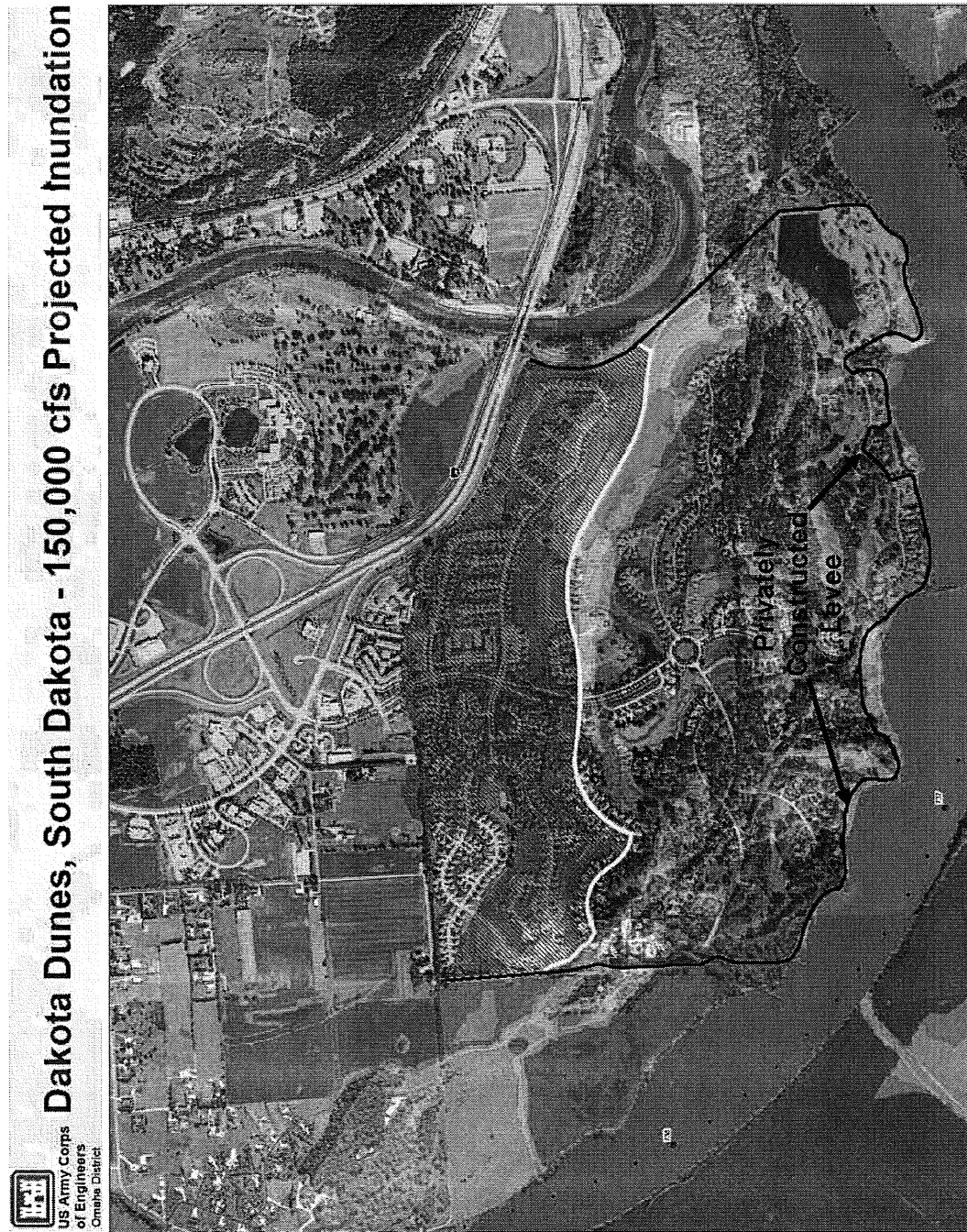


South Dakota

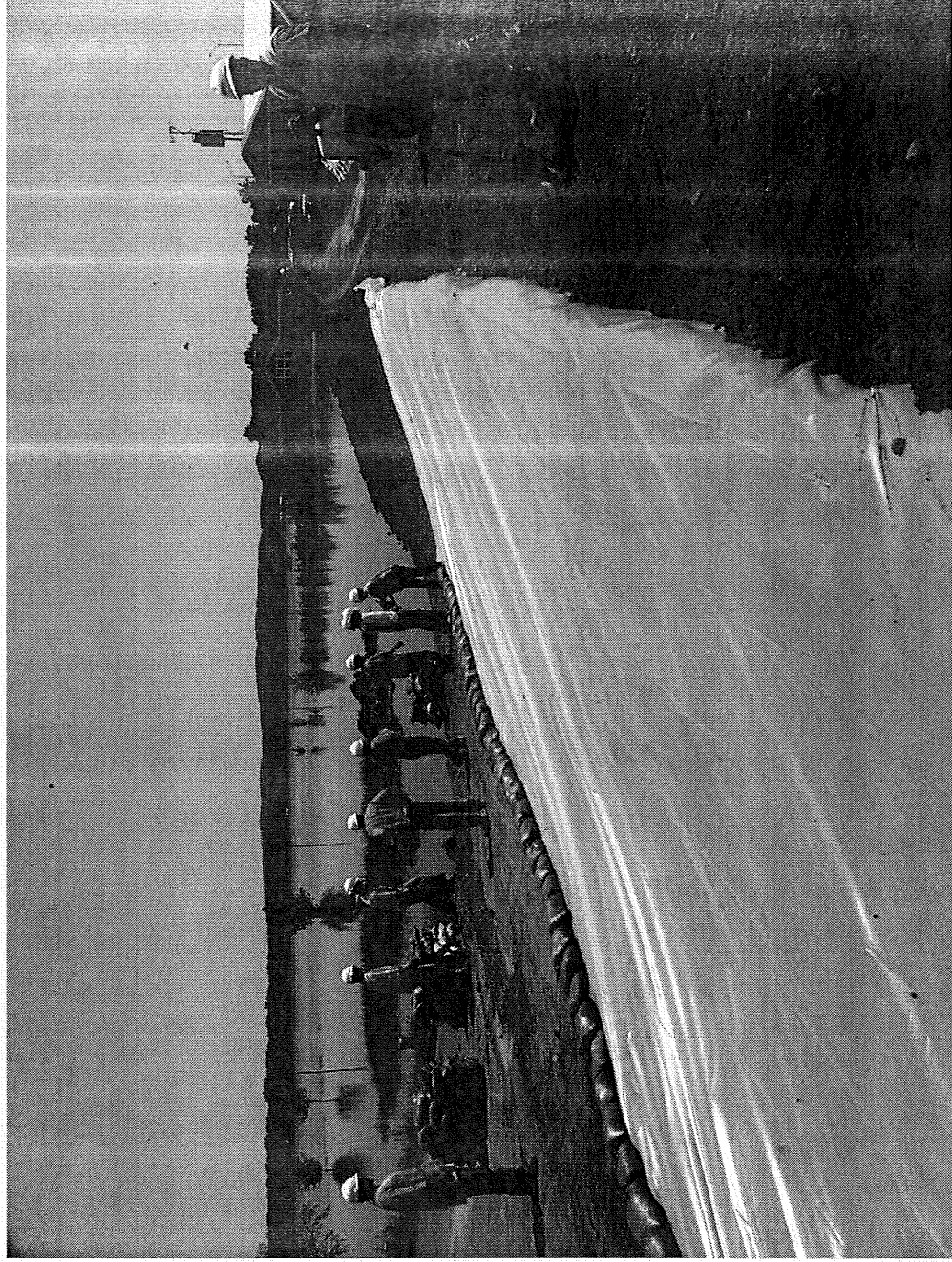
- Dakota Dunes
 - ▶ 1.5 miles of clay levees, \$1.83 million. The height of the levee in relation to the gage is 1100' (88Datum)
 - ▶ Construction complete on 11 June 2011.



Dakota Dunes Inundation Map (South Levee is a privately constructed levee)



Dakota Dunes



BUILDING STRONG®

South Dakota

■ Technical Assistance

- ▶ Clay County
 - Technical Assistance for erosions issues
- ▶ Pierre
 - Request 2 x 16" Pumps
 - ULA working this issue
- ▶ Yankton Sioux Tribe
 - Technical assistance for erosion issue
- ▶ City of Yankton
 - Technical assistance for erosion issue



South Dakota Dam Safety

- ▶ We have a vigilant dam safety program. Our dams are routinely inspected and maintained on rigid schedules and are well-prepared to handle the floodwaters.
- ▶ Our dams are routinely inspected on an annual basis and undergo an even more rigorous evaluation every five years. Our dams are evaluated for safety in accordance with the Federal Guidelines for Dam Safety originally issued in 1979 and revised in 2005.
- ▶ There is no risk of our dams being overtopped during this event. However, the water is in our exclusive flood control zone and near the top of our spillway gates. If the reservoir rises to the top of the spillway gates, we have to open the spillway gates and release water beneath the gates. The spillway gates are considerably lower than the top of the dam and are not designed to have water flowing over the top of them.



South Dakota Dam Safety

- ▶ The dams on the Upper Missouri – Fort Peck, (Montana.), Garrison Dam (N.D.), Oahe Dam, Big Bend Dam, and Fort Randall Dam (all of S.D.) and Gavins Point (S.D./Neb.) are fully functional and operating as designed.
- ▶ The system is protecting the public from unregulated flows. Unregulated flows – which occur when flood waters flow uncontrolled in a spillway -- would result in significantly more damage. There is no evidence to suggest an emergency situation at any of our dams, and all projects are operating within their design parameters.
- ▶ Our extensive instrumentation program allows us to closely monitor areas of interest such as seepage pressure and any minor movement. We've also re-evaluated seismic designs as the state of practice has evolved over recent decades





Montana Flood Fight 2011 Mitigation Actions

As of 12 June 2011 – 1400 hrs

USACE Personnel on the Ground

Ft. Peck – 5

Details on Contracts

No Contracts

Roundup, MT (sanitary lift station)

120 LF

Earthen Levee

5.5 ft in height

\$84k

Project stopped due to heavy rains and flooded work site

Contract has been cancelled

Materials Deployed

Deployed 338,900 Sandbags

Currently have 102,000 Sandbags on hand

Deployed 240 Rolls of Poly

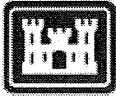
Currently have 90 rolls of Poly on hand

Deployed 4 pumps

Currently have 0 pumps on hand

Daily Calls

Governor, Congressional Offices, Tribes, etc. – 1700 hrs daily



North Dakota Flood Fight 2011 Mitigation Actions

As of 12 June 2011 – 1700 hrs

USACE Personnel on the Ground

Williston – 4

Bismarck/Mandan -411

Ft. Yates - 6

ND EOC - 2

Details on Contracts

Bismarck/Mandan

- Contract No. 1 – Segment D
5,500 LF
Earthen Levee
2 to 8 feet in height
\$1.4 M
Contract Completion 05 Jun 2011
- Contract No. 2 – Segment E & F
10,500 LF
Earthen Levee
Seg E: 3'; Seg F: 2-6' in height
\$393 K
Contract Completion 05 Jun 2011
- Contract No. 3 – Segment A & C
56,500 LF
Seg A: Earthen Levee; Seg C: Trapbags
Seg A: 2-5'; Seg C: 6' in height
\$1.07 M
Contract Completion 05 Jun 2011
- Contract No. 4 – Prairie Rose Elementary School
750 LF
Trapbags
6' in height
\$305 K
Contract Completion 05 Jun 2011
- Contract No. 5 – Mandan
18,500 LF
Earthen Levee and Hescos
2 to 5' in height
\$2.1 M
Contract Completion 05 Jun 2011
- Contract No. 6 – Burleigh Ave, Segment B & E (northern section), 48th Ave
17,120 LF
Earthen Levee, Hescos and Trapbags
2 to 8' in height
\$2.47 M
Contract Completion 05 Jun 2011

Standing Rock Sioux Tribe

- Contract No. 1
Sitting Bull and Ft. Yates water intake erosion (90% complete)
Riprap - 690 Tons
Spalls - 255 Tons
Underwater Fill - 285 Tons
\$72k
Contract Completion 05 Jun 2011
Modification has been awarded to add in erosion protection along the Ft. Yates levee (80% complete)
Working additional modifications for 60 LF of protection erosion protection near the Tribal Headquarters and an extension to the Ft. Yates intake



North Dakota Flood Fight 2011 Mitigation Actions

As of 12 June 2011 – 1700 hrs

■ Contract No. 2

Erosion protection along causeway in Ft. Yates (North Side)

Total – Approximately .75 miles each side

Riprap – 5,000 Tons per side

\$310k

Contractor has mobilized and is beginning today.

Contract Completion 17 June 2011

Option for \$290,000 for the south side protection will be awarded today, 06 June 2011

Total – Approximately .75 miles each side

Riprap – 5,000 Tons per side

Contraction completion will be 14 days after the North side is complete

Materials Deployed

Deployed 1.8 million Sandbags

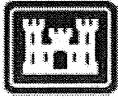
Deployed 10,800 LF of Hescos

Deployed 403 Rolls of Poly

Deployed 5 pumps

Daily Calls

Governor, Congressional Offices, Tribes, Media, etc. – 1800 hrs daily



South Dakota Flood Fight 2011 Mitigation Actions

As of 12 June 2011 – 1600 hrs

USACE Personnel on the Ground

Standing Rock Sioux Tribe – 6
Ft. Pierre/Pierre - 5
Dakota Dunes – 7
Ft. Peck Project Office - 6
Oahe Dam Surveillance - 3
SD EOC - 2

Details on Contracts

Ft. Pierre

2 miles of Clay levee
Avg Height = 5.5 to 6 feet
\$5.95M
Contract Completion 04 Jun 2011

Pierre

2 miles of Clay levee
Avg Height = 5 ft
\$4.2M
Contract Completion 04 Jun 2011

Dakota Dunes

1.5 miles of clay levee
Storm Drain Closures – 14 EA
\$940k+Mod
Contract Completion 09 Jun 2011 (w/ Mod)
Modification pending due to Central Contractor Registration (CCR)

Standing Rock Sioux Tribe

- Contract No. 1
Sitting Bull and Ft. Yates water intake erosion (90% complete)
Riprap - 690 Tons
Spalls - 255 Tons
Underwater Fill - 285 Tons
\$72k
Contract Completion 05 Jun 2011
Modification has been awarded to add in erosion protection along the Ft. Yates levee (80% complete)
Working additional modifications for 60 LF of protection erosion protection near the Tribal Headquarters and an extension to the Ft. Yates intake
- Contract No. 2
Erosion protection along causeway in Ft. Yates (North Side)
Total - Approximately .75 miles each side
Riprap - 5,000 Tons per side
\$310k
Contractor has mobilized and is beginning today.
Contract Completion 17 June 2011
Option for \$290,000 for the south side protection will be awarded today, 06 June 2011
Total - Approximately .75 miles each side
Riprap - 5,000 Tons per side
Contraction completion will be 14 days after the North side is complete

Materials Deployed

Deployed 10.8 million Sandbags
Deployed 758 Rolls of Poly
Deployed 4 pumps

Daily Calls

Governor, Congressional Offices, Tribes, Media, etc. – 1800 hrs daily



Nebraska Flood Fight 2011 Mitigation Actions

As of 12 June 2011 – 1700 hrs

USACE Personnel on the Ground

Lincoln – 1
North Platte – 5
Offutt – 1
South Sioux City – 2

Details on Contracts

North Platte

- White Horse Creek
0.5 mile ditch, Hesco
6 Ft deep x 25Ft wide, Hesco around electrical control room
\$1.95K
Contract/Mods Completed 30 May
- City Contract
3 Miles - New Levee, Raise Levee, Hesco, Sandbags
Ave Height = 1.5 to 4 feet
\$1.5M
Contract Completed 05 June 2011
- Sewage Lift Station
Hesco Ring
Ave Height = 4 feet
\$50K
Contract Completed 02 June 2011
- Cody Dillion Ditch
Hesco Ring
Ave Height = 4 feet
\$50K
Contract Completed 02 June 2011

Airport Levee

4000 Ft Levee Raise
To 1' above proposed elevation at 9000cfs flow
\$194,346
Contract Completion 14 June 2011

Dakota City

700 Ft.
Clay levee
Ave Height = 5 ft
\$0.2M
Contract Completed 07 Jun 2011

South Sioux City

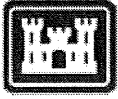
11,000 Ft.
Clay levee and raise road
Ave Height = 2 to 5 feet
\$1.7M
Contract Completed 08 Jun 2011

Levee R613/R616

Raise low areas approx. 8000 Ft.
Ave Height = 2 feet
Sandbags - AF providing labor
\$59,570
Contract Completed 11 June 2011

Materials Deployed

Deployed 1,019,000 Sandbags
Deployed 2,274 3' Hescos
Deployed 3,400 4' Hescos
Deployed 152 Rolls of Poly
Deployed 7 pumps



Nebraska Flood Fight 2011 Mitigation Actions

As of 12 June 2011 – 1700 hrs

Daily Calls

Governor, Congressional Offices, Tribes, Media, etc. – 1430 hrs daily



Iowa Flood Fight 2011 Mitigation Actions

As of 12 June 2011 – 1700 hrs

USACE Personnel on the Ground

Sioux City – 5

Hamburg - 4

IA EOC – 0

Details on Contracts

Sioux City, IA water well protection and access road build. Award was made to Niewohner Construction, Inc. \$370,250.00 Contract Number W9128F-11-C-0041, dated 10 June 2011.

L575 Emergency Levee Repair-W9128F-8-D-0031, TO0012 \$400,000

L575 Emergency Levee Repair/Ditch 6, Hamburg, IA-W9128F-8-D-0031, TO0012 Mod 1, \$2.5M

Technical Assistance

Woodbury County – Flood Inundation review, 750K sandbags, 500 rolls of poly, 2 -12" pumps and local levee construction support to Sioux City and Port Neal area. Construction contract (listed above) for protection of two municipal wells, access road and protection of ten-transformer pads is ongoing

Monona County – Flood inundation review and one-12", one-16" & three-8" pump for Blencoe area

Harrison County – Flood Inundation review, 160K sandbags. four 12" pumps.

Pottawattamie County – Flood Inundation review, Levee inundation and flood review with Council Bluffs Public Utilities, 50K sandbags and 4700 LF Hescos

Mills County – Flood inundation review, Town Hall meetings on 6 & 7 Jun 11; sand bag filler machine; technical review for their berm construction projects.

Fremont County – Flood Inundation review, two levee reviews, levee repair request, sand bag filler machine, a 12" and 16" pump, 120 2 emergency levee 575 repairs and construction of Ditch 6, Hamburg, IA, including providing 120 rolls of poly and 37K of sandbags, 3,000LF of 4' HESCOs

Pending Requests

Harrison County – 3-12" pumps

Materials Deployed

Deployed 1.17 Million Sandbags

Deployed 695 rolls of Poly

12,710 4' Hescos

25 – 3K lb sandbags

6 – 1.5k LB sandbags

1 – Sand bag filler machine

5 pumps

Daily Calls

State of Iowa – 1430 hrs daily

Communities/Public Agencies Contacted/Consulted

Woodbury County

Sioux City, IA

Mid America Energy (Port Neal)



Iowa Flood Fight 2011 Mitigation Actions

As of 12 June 2011 – 1700 hrs

Monona County

Onawa, IA

Blencoe, IA

Harrison County

Desoto Bend National Wildlife Refuge

Pottawattamie County

Council Bluffs, IA

Mid America Energy (Council Bluffs, IA)

Mills County

Glenwood, IA

Pacific Junction, IA

Fremont County

Hamburg, IA



Wyoming Flood Fight 2011 Mitigation Actions

As of 06 June 2011 – 1700 hrs

USACE Personnel on the Ground

Lander – 6
Torrington – 3

Details on Contracts

No contracts pending or awarded

Materials Deployed

Elk Mountain

1,300 LF of Hesco (library, townhall, school and post office)
3,000 Sandbags
Labor provided by 12 Army/Air Force Wyoming National Guard
Material and equipment provided by Wyoming DOT
Completed 1 June 2011

State of Wyoming

Provided 300,000 Sandbags

Daily Calls

Wyoming Department of Homeland Security, State Emergency Managers, Governor's Office, State Engineer, etc. – 1500 hrs daily

Communities/Public Agencies Contacted/Consulted

Lander
Dubois
Wind River Reservation, Eastern Shoshone and Northern Arapaho Tribes
Fort Washakie
Ethete
Fremont County Transportation Dept.
Riverton
Hudson
Torrington
Fort Laramie
Goshen County
Natrona County

[REDACTED] NWO

From: [REDACTED]
Sent: Sunday, June 12, 2011 4:12 PM
To: Farhat, Jody S NWD02
Subject: FW: Deviation Modification for Lower Kansas Projects and Truman (UNCLASSIFIED)
Attachments: document2011-05-29-152504.pdf

Classification: UNCLASSIFIED
Caveats: NONE

Jody,

The attached is the deviation we approved. Below is what I sent to Eric last Sunday. When I spoke with him last Monday he had indicated that he had spoken with Rex Goodnight and that they had decided to stick with their original plan.

[REDACTED]
[REDACTED]
Reservoir Regulation Team Lead
Missouri River Basin Water Management,
Northwestern Division, USACE
[REDACTED]
[REDACTED]

-----Original Message-----

From: [REDACTED]
Sent: Sunday, June 05, 2011 6:00 PM
To: [REDACTED]
Subject: Deviation Modification for Lower Kansas Projects and Truman (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

[REDACTED]
Just throwing some words out here for you to consider.

Reference attached deviation request from May 29, 2011 - Deviation Request from Missouri River Control Points).

The extreme and historical releases being made from Gavins Point are directly related to the reservoir conditions at the upper mainstem projects. All three upper projects are currently well into their exclusive flood control pools and are expected to remain in those zones, at least until August, and perhaps later. Currently, Fort Peck is in its surcharge zone and Garrison is within inches of being in its surcharge zone.

Given the extreme flooding conditions in the mainstem system, it is necessary that tributary reservoir regulation also be considered in order to maintain proper risk management. Attached is a planning tool, which outlines a likely range of flows of stages with a Gavins Point release of 150 kcfs, that was collaboratively developed by MRBWM, NWO, NWK and the MBRFC (National Weather Service). This planning tool is being used to assist with risk reduction measures along the Missouri River from Gavins Point to the mouth.

<http://www.nwo.usace.army.mil/html/op-e/maps/WaterMgt/Below%20Gavins%20-%20Range%20of%20Flows%20and%20Stages%20-%20Final.pdf>

Kansas City - 220 kcfs to 350 kcfs (30 ft to 39 ft) Waverly - 230 kcfs to 370 kcfs (27 ft to 31 ft) Boonville - 260 kcfs to 420 kcfs (27 ft to 33 ft) Hermann - 300 kcfs to 470 kcfs (27 ft to 33 ft)

Then reference the Corps' FUI stage forecast for the next 2 weeks:

<http://www.nwd-mr.usace.army.mil/rcc/reports/internal/showrep.cgi?3STAG1>

Since the NWS forecast only goes out 5 days, it isn't going to assist with this due to travel time from the projects to each of the Missouri River stations. We could use our FUI forecast or the NWS does produce a monthly forecast every Wednesday. Might be able to get them to produce it Monday and Friday also.

For the next 2 weeks the Missouri River stations, per this morning's FUI:

... Kansas City (MKCF) stage forecast does not exceed 28 feet.

... Waverly (WVMF) stage forecast does not exceed 26 feet.

... Boonville (BNMF) stage forecast does not exceed 24 feet.

... Hermann (HEMF) stage forecast does not exceed 23.5 feet.

Since all stations are below their respective lower end of the likely range, then releases from flood control storage zones can be made in such a manner that the total flood control release does not exceed the lower stage level. In this case, it would be Waverly (26 feet to 27 feet) that would be the adjusted control point. Per the latest rating curve, there's about an 18 kcfs difference between 26 and 27 feet at Waverly. Or we could use flows. Doesn't matter - 6 of one, half dozen of the other. However, it seems that the stage is driving factor, not the flow.

How flood control storage releases are made should be based on each project's current level of flood control storage as well as downstream constraints, such as Milford and Tuttle Creek. However, 3 weeks from now, it may be a different project. We'll have to work out how we're going to monitor/adjust through the period ... revisit every few days or after a major precipitation event ... it'll be tricky due to the travel time.

Talk to you at 8:30.

[REDACTED]
[REDACTED]
Reservoir Regulation Team Lead
Missouri River Basin Water Management,
Northwestern Division, USACE
[REDACTED]

Classification: UNCLASSIFIED

Caveats: NONE

Classification: UNCLASSIFIED

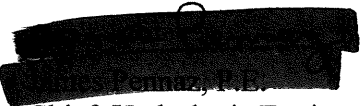
Caveats: NONE

29 May 2011

MEMORANDUM FOR Chief, Missouri River Basin Water Management Division
(CENWD-PDR)

SUBJECT: Deviation Request from Missouri River Control Points

1. With the knowledge that the lower Missouri River will be much above flood stage for an extended period of time starting in mid-June, we request that our previous deviation be rescinded effective immediately and be replaced with this deviation request (see attachments 1 and 2 – May 10 request and May 24 approval).
2. Releases from the Missouri River reservoirs, which are already at historic levels, will be increased even more due to higher than forecasted rains in the upper basins. Releases from Gavins Point Dam are expected to reach a record 150,000 cfs by no later than mid-June. These releases are expected to be at this level until at least mid-July, if not longer.
3. The Kansas City District requests a deviation, for all NWK projects, from control points on the Missouri River to immediately begin evacuation of any stored flood control waters in NWK projects.


Chief, Hydrologic Engineering Branch
Kansas City District, Corps of Engineers

NWO

From: Farhat, Jody S NWD02
Sent: Sunday, June 12, 2011 3:55 PM
To: Farhat, Jody S NWD02; McMahon, John R BG NWD; Tipton, Robert A Col NWD; Anderson, G Witt NWD; Ruch, Robert J COL NWO; Hofmann, Anthony J COL NWK; Blechinger, Erik T NWO; L [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
Cc: [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
Subject: RE: WM Talking Points for 12 June stakeholder call (UNCLASSIFIED)
Attachments: 2011 Missouri River Flood Talking Points 12 Jun 2011.docx

Classification: UNCLASSIFIED
Caveats: NONE

FYI

Classification: UNCLASSIFIED
Caveats: NONE

2011 Missouri River Flood Talking Points
Missouri River Water Management
12 June 2011

We posted the updated reservoir forecast to the web this afternoon. The only adjustment in releases was at Fort Randall where we delayed the next increase another day to allow the Gavins Point reservoir to fall to decline slightly; the reservoir is currently about a foot higher than desired.

We will continue to make these small intrasystem adjustments throughout the summer to best balance the reservoir levels and releases. The anticipated peak releases remain the same: 65,000 cfs at Fort Peck, and 150,000 cfs at the lower 5 dams: Garrison, Oahe, Big Bend, Fort Randall and Gavins Point.

The release schedule for the 6 dams are as follows:

- Fort Peck –Releases were increase to 65,000 cfs today and will be held at that level.
- Garrison –135,000 cfs today, increasing to 140,000 cfs tomorrow and holding at that level through Wednesday, increasing to 145,000 cfs on Thursday and reaching the peak release of 150,000 cfs on Friday.
- Oahe and Big Bend –Releases will remain at the peak level of 150,000 cfs.
- Fort Randall – 137,000 cfs today and tomorrow, gradually stepping up to the peak release of approximately 148,000 cfs by the middle of next week.
- Gavins Point – 145,000 cfs today and tomorrow, then stepping up to the peak release of 150,000 cfs on Tuesday.

Peak releases are expected to continue well into August.

The forecast is based on best available information at this time; actual releases are based on conditions on the ground and are subject to change

[REDACTED] NWO

From: [REDACTED]
Sent: Sunday, June 12, 2011 3:41 PM
To: Farhat, Jody S NWD02; Swenson, Michael A NWD02; [REDACTED] NWD02; [REDACTED] NWD02
Subject: Inflow Statistics - Historical Perspective (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Some interesting projections (note that Jun-Dec 2011 values are forecasted, not actual).

Fort Peck for 2011:

2,871 KAF in May - 1st, 2nd was 2,467 KAF in 1975
3,906 KAF in Jun - 2nd, 1st was 4,140 KAF in 1980
1,953 KAF in Jul - 4th, 1st was 2,528 KAF in 1975
13,716 KAF total - 2nd, 1st was 13,828 KAF in 1975

Garrison for 2011:

4,414 KAF in May - 1st, 2nd was 2,750 KAF in 1978
6,212 KAF in Jun - 1st, 2nd was 5,086 KAF in 1909
4,141 KAF in Jul - 1st, 2nd was 4,094 KAF in 1907
22,658 KAF total - 1st, 2nd was 17,401 KAF in 1997 In 45 of 113 years of record, summation above SUX was less than 22,658 KAF.

Summation above SUX for 2011:

10,469 KAF in May - 1st, 2nd was 7,237 KAF in 1995
12,148 KAF in Jun - 1st, 2nd was 10,317 KAF in 1909
7,138 KAF in Jul - 3rd, 1st was 8,172 KAF in 1993 and 2nd was 7,419 KAF in 1907
54,632 KAF total - 1st, 2nd was 49,037 KAF in 1997

[REDACTED]
[REDACTED]
Reservoir Regulation Team Lead
Missouri River Basin Water Management,
Northwestern Division, USACE

[REDACTED]
[REDACTED] (fax)

Classification: UNCLASSIFIED
Caveats: NONE

From: Farhat, Jody S NWD02
Sent: Sunday, June 12, 2011 3:19 PM
To: desk@nbcactionnews.com
Subject: RE: Voice Message from Unknown (Not Available) (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Corps response to Congressman Graves comment:

One of the primary purposes of the Missouri River Mainstem Reservoir System is to reduce risks from floods to people, homes and businesses. Dams do not stop floods, rather they allow flood waters to be captured and then released in a controlled manner.

Releases from the Missouri River dams last fall and throughout the winter of 2010 were above normal in order to evacuate all flood waters from 2010, which was the third highest water year on record in the Missouri River Basin. On 28 January 2011, the full flood capacity of the Missouri River reservoir system was available for this year's runoff season. At that point, and all the way through the first of May, we had no reason to think we needed to increase releases beyond normal levels.

The flood of 2011 is a perfect storm of events: 1) heavy plains snow; 2) extraordinary rainfall in eastern Montana, Northern Wyoming and the western Dakota in one month (300% of normal in May); and 3) additional mountain snowpack accumulation to record levels in May and a delayed melt. Our reservoirs captured the record runoff in the basin during May. This provided people downstream time to prepare for higher than normal releases required to make room in the reservoirs for the record mountain snowpack, which still needed to enter the reservoirs.

The May 2011 runoff into the Missouri River Basin above Sioux City was 10.5 MAF - our normal May runoff based on historical records is 3.3 MAF. This was the second highest single month of runoff since 1898. The only higher was in 1952, a significant flood year, with 13.2 MAF in April. Not only is the May inflow unprecedented, but the yearly inflow is now forecast to be 54.6 MAF, more than twice the normal 24.8 MAF, and will be the highest ever.

The Missouri River Mainstem Reservoir System, which includes 6 dams, has been operated this year in accordance with the Master Manual. The Master Manual is a water control plan that helps guide how much water should be released, when, and for how long from the 6 reservoirs for the benefit of the entire Missouri River basin. The reservoir system is multiuse and is operated for 8 Congressionally-authorized purposes - it is not optimized for any one purpose. A primary purpose is flood risk management. The reservoirs were designed to capture spring and summer runoff and allow the Corps to manage releases throughout the year to accommodate the other 7 authorized purposes: navigation, irrigation, water supply, hydropower, fish and wildlife, recreation, and water quality.

The Corps revised the Master Manual in 2004 following a 14-year period of public involvement throughout the Missouri River Basin to gain input on how the System should be operated. Hundreds of alternatives were analyzed and considered during this process. The current Master Manual reflects the input from the public and Tribes throughout the entire Basin on how the reservoirs could best be operated to serve all the purposes for which they were authorized and constructed.

Jody Farhat, P.E.

Chief, Missouri River Basin Water Management

[REDACTED]

Classification: UNCLASSIFIED

Caveats: NONE

NWO

From: [REDACTED] NWO
Sent: Sunday, June 12, 2011 3:04 PM
To: [REDACTED] Thomas, Kimberly S NWO; [REDACTED] Dan J NWO; Hoyer, Claudine
[REDACTED] Kathryn M NWO; [REDACTED] Gregory NWO; [REDACTED] Larry D NWO; Bertino,
[REDACTED] Farhat, Jody S NWD02
Cc: [REDACTED] Pavlik, Kevin L NWO; Boardman, Larry E NWO; Katsen, Justin A NWO;
[REDACTED] Harms, Carl M HNC @ NWO; Dingman, Harold E NWO; Baker, Larry A NWO
Subject: RE: Flood Report #10 - Fort Peck (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

All:

I think you can zoom on these pictures.

-----Original Message-----

From: [REDACTED]
Sent: Sunday, June 12, 2011 2:01 PM
To: [REDACTED] Thomas, Kimberly S NWO; [REDACTED] Dan J NWO; Hoyer, Claudine
[REDACTED] Kathryn M NWO; [REDACTED] Gregory NWO; [REDACTED] Larry D NWO; Bertino, John D Jr NWO;
Farhat, Jody S NWD02
Cc: [REDACTED] Pavlik, Kevin L NWO; Boardman, Larry E NWO; Katsen, Justin A NWO;
[REDACTED] Harms, Carl M HNC @ NWO; Dingman, Harold E NWO; Baker, Larry A NWO
Subject: Flood Report #10 - Fort Peck (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

All:

Releases from Fort Peck Dam were increased to 65,000 cfs. Approximately 13,000 cfs through the power plants and 52,000 cfs through the spillway. Fort Peck Reservoir pool elevation set a record today at 2251.8 passing. The old record of 2251.6 was set in 1975.

Stilling basin erosion has eroded back to the wing walls to unweathered Bear Paw Shale. The unweathered Bear Paw Shale appears to be very tough stuff. It remains to be seen if it will hold for the duration of the spill. A structural engineer is coming on Tuesday to evaluate the lower end of the spillway section. There are no problems noted but we want an additional opinion.

Twenty four hour surveillance continues on the dam and spillway. No issues were noted in the last twenty four hours.

Project staff, with assistance from Western Area Power Administration will begin installing a temporary overhead line on Monday to restore primary power to the spillway. This will bypass a section of underground wire that needs replacement. This work should be completed Tuesday.

Solicitation for supplying 6,000 ton of field stone riprap was posted on FBO today. This will be awarded June 15th.

[REDACTED] assisting Fort Peck Tribes in Wolf Point today in protecting their rural water intake plant. Water does not threaten the plant at this time.

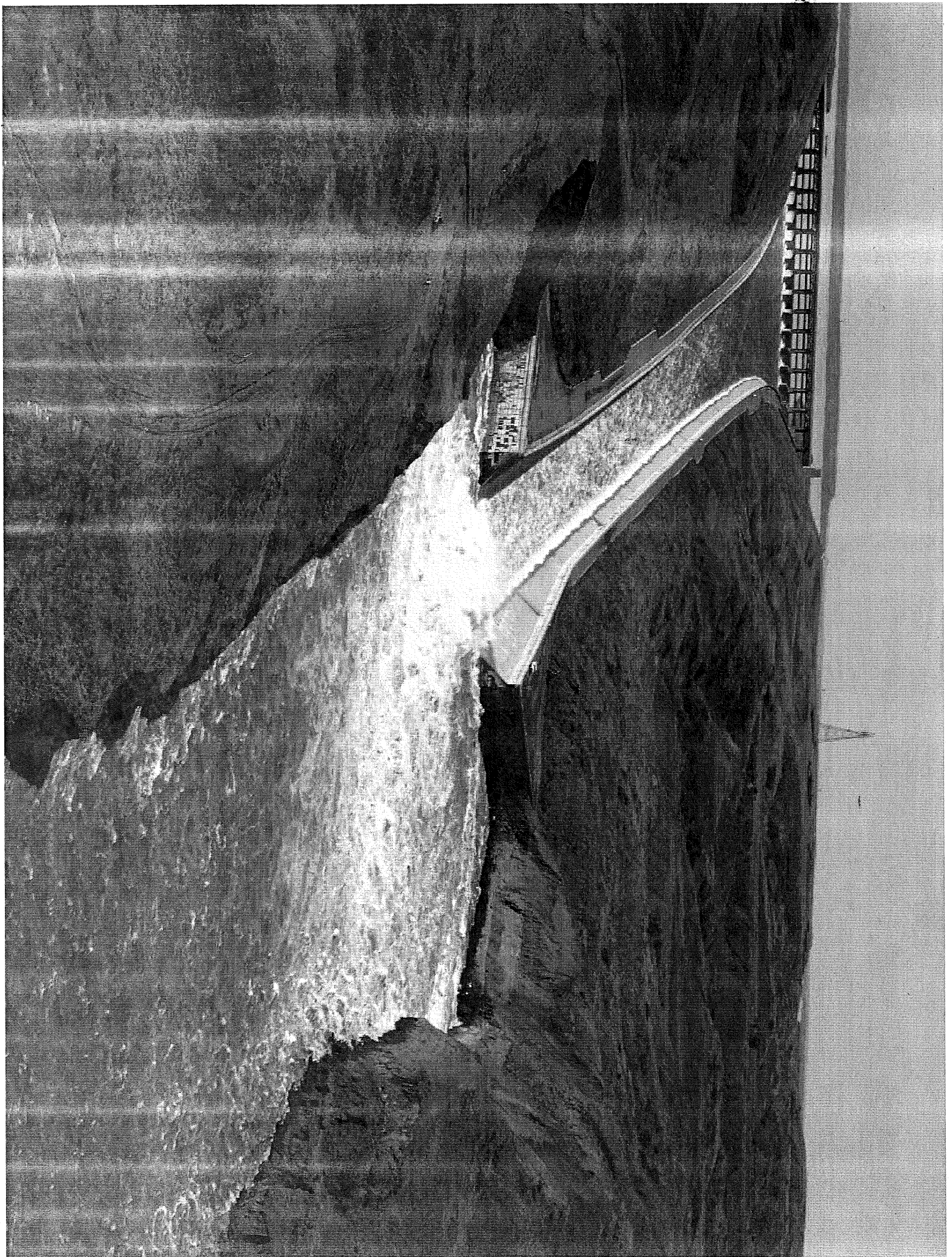
Work on the temporary levy in Poplar is substantially complete. Fort Peck Tribes is performing this work and should complete it in the next day or two.

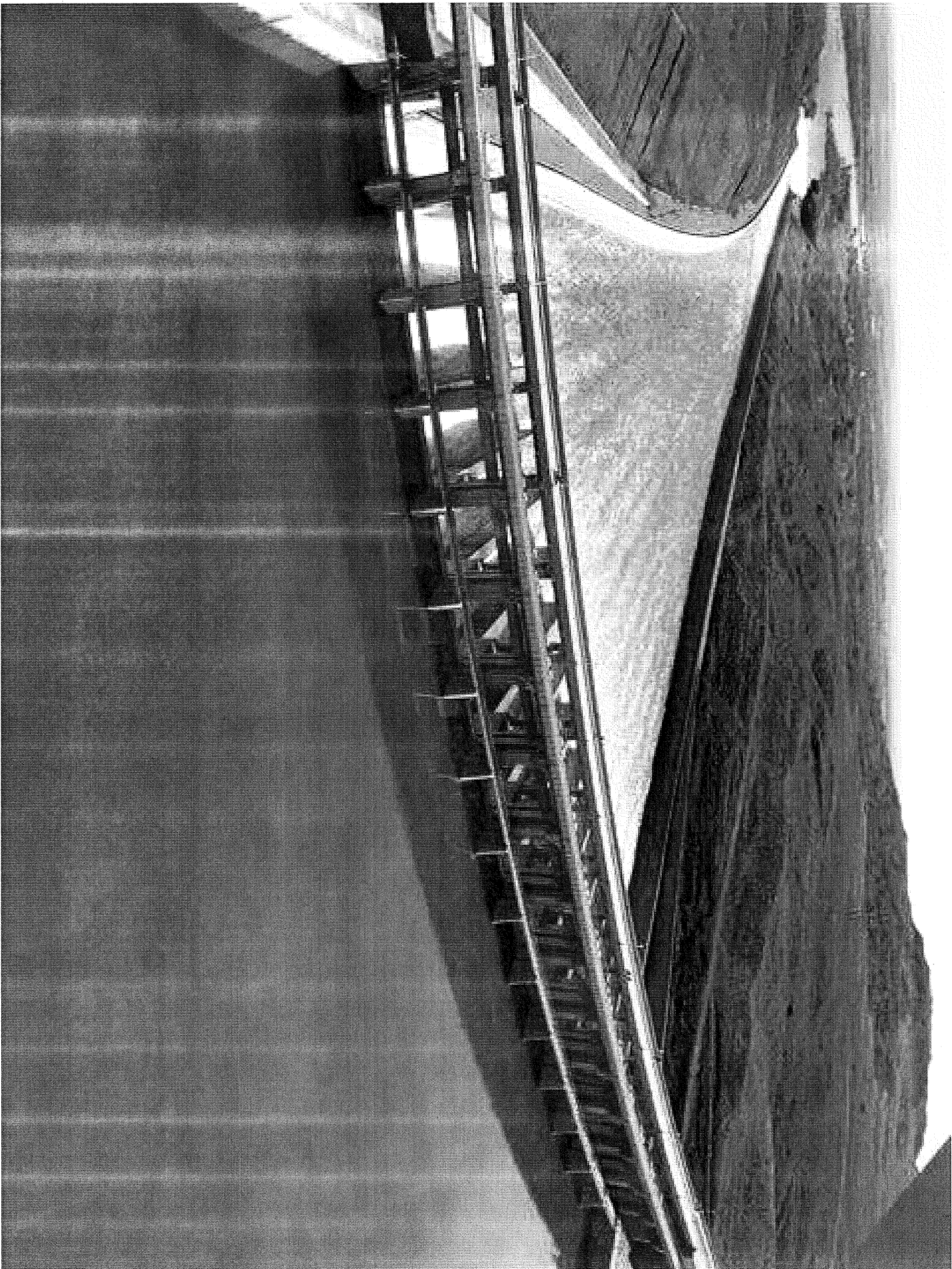
Attached are pictures of the spillway today. Spillway flows are approximately 52,000 cfs. Photos were taken by [REDACTED] Fort Peck Project employee flying with husband Larry in their Super Cub. Additional photos are available if needed.

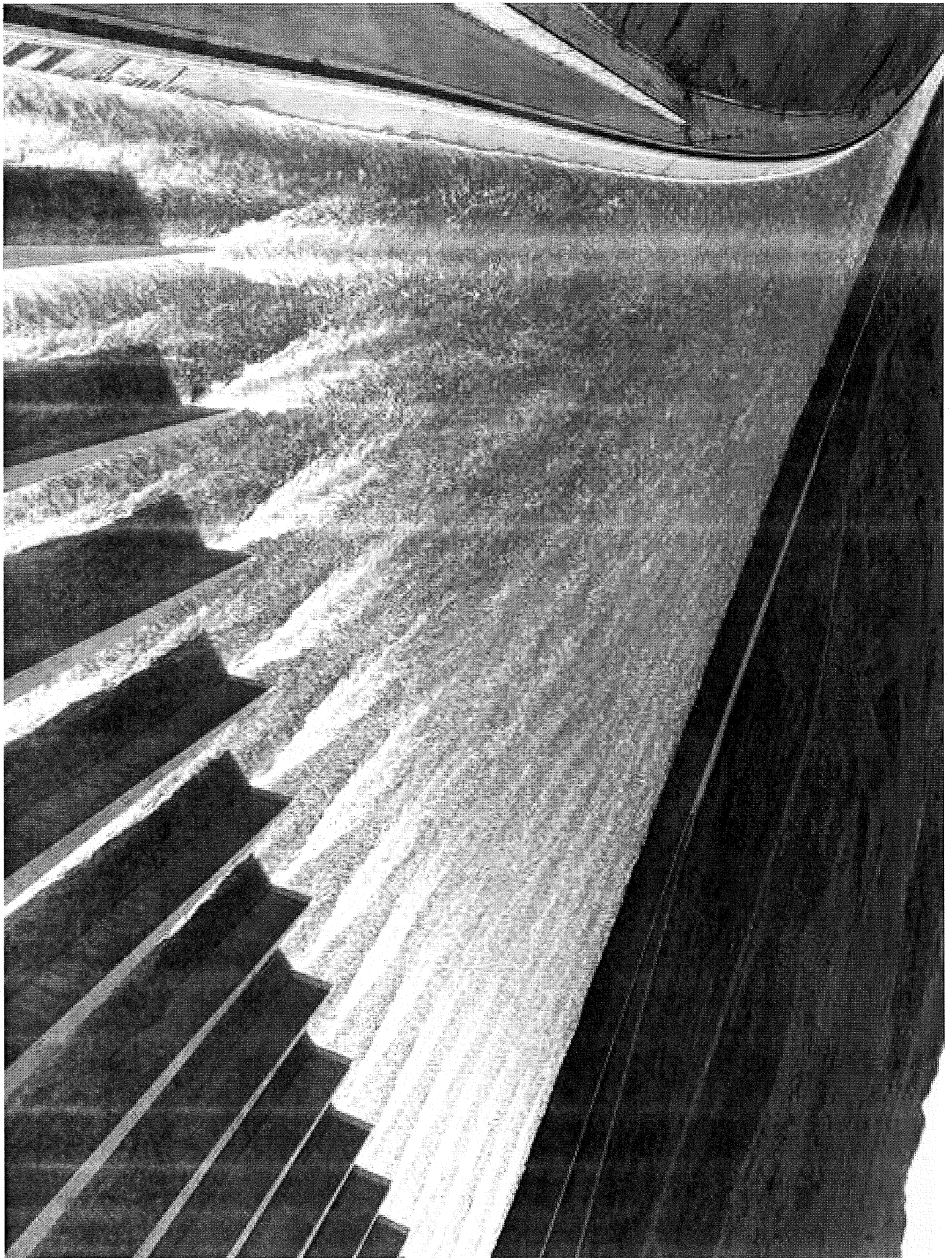
[REDACTED]
[REDACTED] Daggett, P.E.
U.S. Army Corps of Engineers
Operations Project Manager
Fort Peck Project
Fort Peck, Montana 59223
[REDACTED]
[REDACTED]

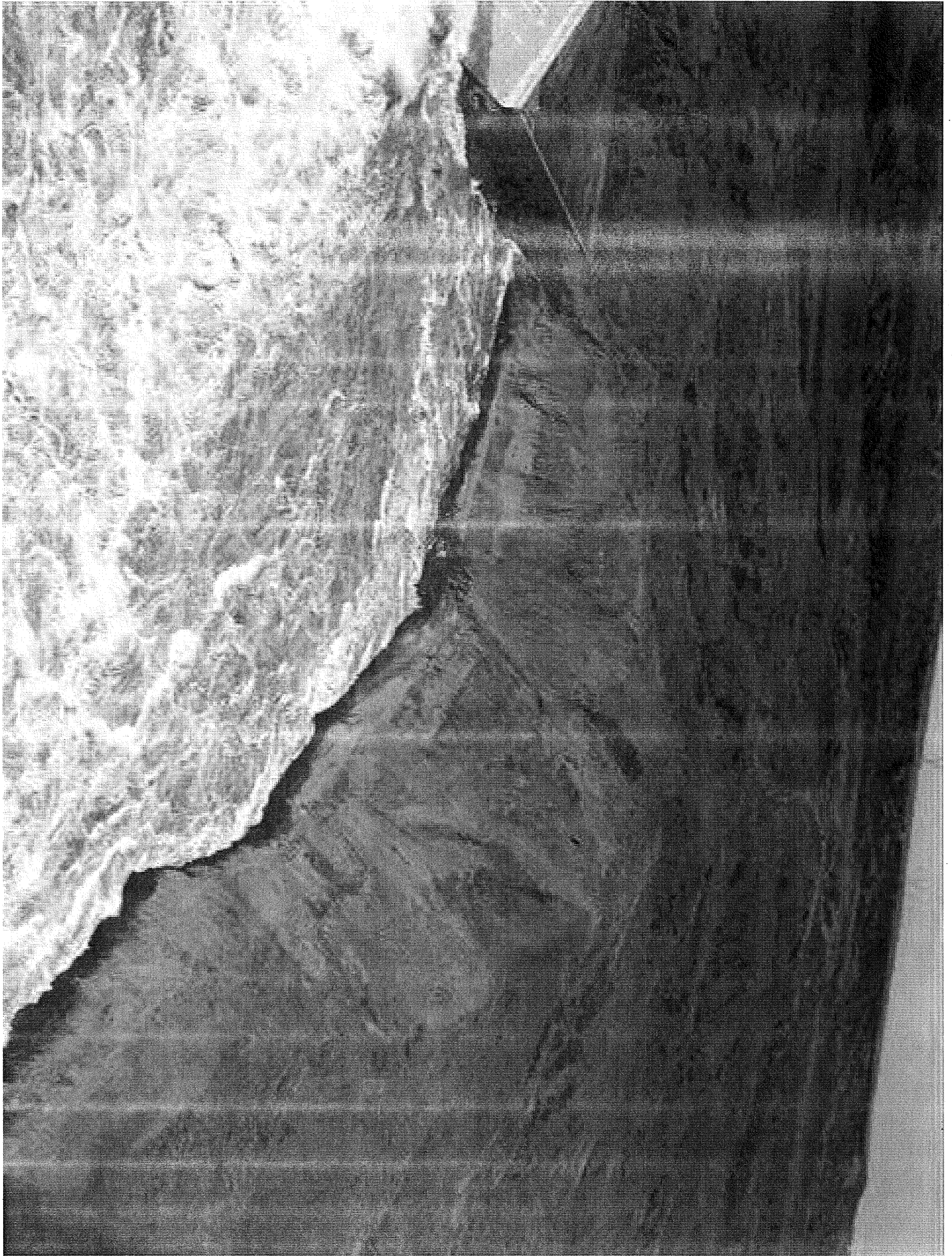
Classification: UNCLASSIFIED
Caveats: NONE

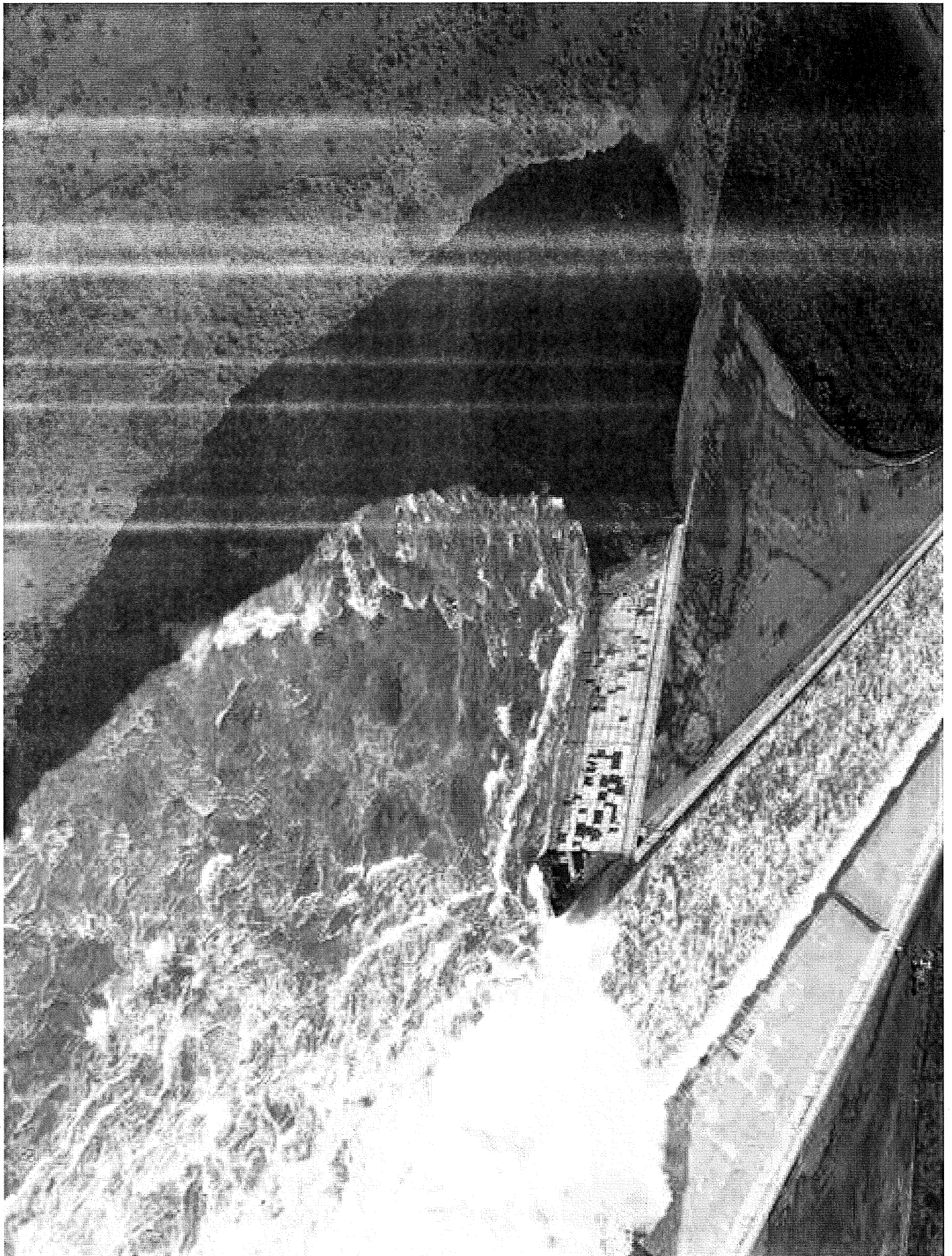
Classification: UNCLASSIFIED
Caveats: NONE











Flood Risk Management/Multiuse Reservoir Talking Points:

One of the primary purposes of the dams and reservoirs is to reduce risks from floods to people, homes and businesses. Dams do not stop floods, rather they allow flood waters to be captured and then released in a controlled manner.

In the case of the Missouri River Flood of 2011, our reservoirs allowed the Corps to capture the record runoff in the Basin during May. This provided people downstream time to prepare for higher than normal releases required to make room in the reservoirs for the record mountain snowpack, which still needed to enter system. It also allowed room for additional rainfall events.

The Missouri River Mainstem Reservoir System, which includes 6 dams, is multiuse and is operated for 8 Congressionally-authorized purposes – it is not optimized for any one purpose. A primary purpose is flood risk management. The reservoirs were designed to capture spring and summer runoff and allow the Corps to manage releases throughout the year to accommodate the other 7 authorized purposes: navigation, irrigation, water supply, hydropower, fish and wildlife, recreation, and water quality.

While this year a record-setting amount of runoff is flowing into the system, from 2000-2007 we experienced drought, or lower than normal runoff. If we optimized the system for flood risk management and released more water from storage each year, the reservoirs may not have enough water to provide for other purposes downstream such as navigation and water supply. This is particularly a concern given the potential wide variation in amount of runoff from year to year. In addition, keeping the reservoirs at higher levels also benefits the upstream needs for recreation.

The Missouri River Mainstem Reservoir System is operated in accordance with the Master Manual. The Master Manual is a water control plan that helps guide how much water should be released, when, and for how long from the 6 reservoirs for the benefit of the entire Missouri River basin. The Master Manual hydrology (runoff volume, timing, shape of watersheds, etc) is based on over 100 years of historical runoff records (1898-2004).

The Corps revised the Master Manual in 2004 following a 14-year period of public involvement to balance all the competing uses for the Missouri River. Hundreds of alternatives were analyzed and considered during this process. The current Master Manual reflects the input from the public and Tribes throughout the entire Basin on how the reservoirs could best be operated to serve all the purposes for which they were authorized and constructed.

Prepared by: MRJIC, 12 June 2011

Approved by: Erik Blechinger and Jody Farhat

[REDACTED] NWO

From: [REDACTED]
Sent: Sunday, June 12, 2011 2:04 PM
To: DLL-NWK-MRJIC
Cc: Farhat, Jody S NWD02
Subject: FW: Bunk's article (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

FYI- should be in clips today.

-----Original Message-----

From: [REDACTED]
Sent: Sunday, June 12, 2011 2:03 PM
To: [REDACTED]
Cc: [REDACTED]
Subject: Bunk's article (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

<http://www.greatplainsexaminer.com/2011/06/09/without-answers-from-corps-public-blames-flood-on-plovers/>

Classification: UNCLASSIFIED
Caveats: NONE

Classification: UNCLASSIFIED
Caveats: NONE

NWO

From: [REDACTED] NWD
Sent: Sunday, June 12, 2011 1:44 PM
To: Farhat, Jody S NWD02
Cc: Anderson, G Witt NWD; Blechinger, Erik T NWO
Subject: great, fair coverage in SmartMoney online (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Nicely done Jody!

[REDACTED]

SmartMoney - Online
New York, NY
06/11/2011

A Summer of Sandbags on the Missouri

By JOE BARRETT And DOUGLAS BELKIN
Cities Race to Shore Up Defenses as Torrent From Snowmelt, Big May Storm Threatens to Bring Months of High Water

Associated Press

Sightseers observed the water pouring Wednesday from the outlet tunnels at Oahe Dam near Fort Pierre, S.D.

HAMBURG, Iowa—This small riverside town is racing to build a backup for its faltering levee as cities up and down the Missouri River steel themselves for a summer of some of the worst flooding in decades and longest-lasting high waters on record.

With Rocky Mountain snowmelts just beginning to flow, following huge rains in eastern Montana in May, the Army Corps of Engineers is draining its swollen reservoirs from Montana to South Dakota at a record pace.

The Corps plans to reach a top rate of release into the lower half of the Missouri sometime next week and stay at that pace through mid-August at least. The extraordinary length of the flooding promises to test permanent and temporary levees from Bismarck, N.D., to St. Louis.

Already, thousands of people have evacuated from low-lying areas along the river, with many expecting to be away for most of the summer. A 10-mile section of Interstate 29 north of Council Bluffs, Iowa, was closed because of rising water on Thursday and freight rail lines along the river are also being affected.

Risk Levels

See the latest data from flood gauges throughout the Midwest and South.

This week, the U.S. Department of Agriculture said the record flooding on the Missouri, Mississippi and Ohio rivers this growing season will keep about two million acres out of production, taking a bite out of the expected record corn crop—and possibly fueling high grain prices.

South Sioux City, Neb., has spent \$80,000 on a web of new backup levees, said city administrator Lance Hedquist. Decatur, Neb., closed a park that is partly underwater. Hundreds of residents attended flood-preparation meetings this week in the Iowa towns of Pacific Junction and Glenwood.

The Corps says it will move a record amount of water through the river this year, but it won't come through all at once. Floods in past years have sent water through the system more quickly, creating higher water levels, but the flooding lasted weeks instead of months, said Tim Cowman, director of the Missouri River Institute at the University of South Dakota in Vermillion.

"You can only engineer it to a certain point" to reduce flood risks and balance the other needs of the river, like maintaining navigation during a drought, Mr. Cowman said. "This is pushing the system to the limit."

In Hamburg, a town of about 1,200 in the southwest corner of Iowa, the levee already has sprung three leaks, most recently Thursday, when water worked its way under the levee in what is known as a sandboil.

"There was a sandboil that undermined the levee, then it caverns and it just collapses on itself," said Dan Sturm, the town's fire chief. "We had a pretty strong flow moving through there."

As volunteers tossed sandbags into the breach, the Iowa National Guard scrambled a Blackhawk helicopter, which dropped a 2,000-pound sandbag, Mr. Sturm said. Backhoes went to work quickly, and the breach was stopped within 90 minutes.

Now, the town is days from completing a secondary levee to protect businesses downtown in case the primary levee fails.

Unlike the Mississippi River, where the Corps has relatively little control over the volume of water entering the river, the Missouri River is controlled by six giant flood-control reservoirs built from the 1930s to the mid-1960s.

The dams help the Corps regulate a complex river system that just a few years ago was struggling with near-record-low water levels. This spring, the Corps was expecting a wetter-than-normal season and was draining water from its reservoirs at a steady rate.

Then, on the weekend of May 20, everything changed, said Jody Farhat, the Corps' chief of water management in the Missouri River Basin. On a warm, sunny weekend in Omaha, Neb., she was checking the radar for a storm expected to drop a few inches of rain some 800 miles north in eastern Montana.

To her horror, the storm didn't move through as quickly as expected. "It was stationary over Montana for 2½ days," she said. The storm dumped about five inches of rain over four days across a big swath of eastern Montana, with some places getting more. The town of Zortman reported more than nine inches.

That filled the Corps's reservoirs, which needed room for a melting snowpack in the mountains that had grown during May to 140% of average from 110%.

Early the next week, the Corps began alerting state and local officials that it would have to begin draining its reservoirs at a record pace. The Corps has been ramping up its releases since, building toward its expected peak of 150,000 cubic feet a second by next week, compared with 70,000 cubic feet a second at its southernmost reservoir, set in 1997.

In Council Bluffs, a city of about 60,000 across the river from Omaha, volunteers this week filled 200,000 sandbags to protect low spots and some people have evacuated.

"We've got 60-year-old levees built to keep away water, but it usually comes in a flash flood," said Mayor Thomas Hanafan. "Our biggest concern is, will the levees hold?"

-Scott Kilman and Bryan Gruley contributed to this article.

Write to Joe Barrett at joseph.barrett@wsj.com and Douglas Belkin at doug.belkin@wsj.com

[REDACTED]
Attorney/Advisor: U.S. Army Corps of Engineers Office of Counsel, Northwestern Division,
Portland OR [REDACTED] Attorney Client and/or Attorney Work Product-- DO NOT RELEASE UNDER
FOIA OR OUTSIDE USACE)

Classification: UNCLASSIFIED

Caveats: NONE

From: [REDACTED] NWD
Sent: Sunday, June 12, 2011 1:17 PM
To: Farhat, Jody S NWD02
Subject: FW: (UNCLASSIFIED)

Jody,

Did you see this newsclip with Graves' comments?

Christina

-----Original Message-----

From: [REDACTED]
Sent: Saturday, June 11, 2011 9:10 AM
To: Austin-Smith, Christina A NWD
Subject: (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

<http://www.kmbc.com/video/28202245/detail.html>

Outreach Specialist
Kansas City District,
U.S. Army Corps of Engineers

Missouri River Recovery Program on Facebook at <http://www.facebook.com/moriverrecovery>
<<http://www.facebook.com/moriverrecovery>>
Missouri River Recovery Program on Youtube at <http://www.youtube.com/moriverrecovery>
<<http://www.youtube.com/moriverrecovery>>

Classification: UNCLASSIFIED
Caveats: NONE

Classification: UNCLASSIFIED
Caveats: NONE

From: [REDACTED]
Sent: Sunday, June 12, 2011
To: Wingert, Kevin M NWO
Cc: Farhat, Jody S NWD02
Subject: RE: Colonel talking points for an internal newsletter (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

[View in html.](#)

1. Average Monthly System Releases (from Gavins Point):

Dec 2010 - 25.2 kcfs, avg = 14.9 kcfs, max = 37.1 kcfs in 1997

Jan 2011 - 18.5 kcfs, avg = 17.1 kcfs, max = 25.9 kcfs in 1987

Feb 2011 - 20.7 kcfs, avg = 17.2 kcfs, max = 30.3 kcfs in 1997

Mar 2011 - 21.0 kcfs, avg = 19.6 kcfs, max = 35.6 kcfs in 1997

Apr 2011 - 30.3 kcfs, avg = 24.8 kcfs, max = 50.3 kcfs in 1997

May 2011 - 56.4 kcfs, avg = 28.1 kcfs, max = 59.5 kcfs in 1997 (and only year higher than 2011)

2. Indexed to 2010 levels, flood damages prevented from the Missouri River mainstem reservoirs is approximately \$44.2 billion. This does not include 2011. Cost to build the dams (indexed to 2010 levels) is \$23.1 billion.

3. See email I sent you yesterday with plot of Missouri River at Sioux City.

4. Per the master manual Appendix A (A-02.2), An estimated total volume of flood runoff at Sioux City during the March through July 1881 period was more than 40 MAF, which greatly exceeds the volume of runoff for any other year at this location for which records were kept. The severe flood sequence, as reconstructed from available stage records, served as the primary basis for the design of the flood control storage space in the System.

Note: This 40 MAF is referring to the March - July period, not the entire year. It is unknown what the total runoff in 1881 was.

2011: We're forecasting the March - July runoff to be about 44 MAF, which will exceed the 1881 amount.

1997: 36.6 MAF in Mar-Jul

Total annual runoff:

2011: We're forecasting Jan-Dec runoff to be about 54.5 MAF

1997: 49.0 MAF

5. See graphs below.

a. At Missouri River at Rulo, NE, without the dams the flow at Rulo would have been about 213,000 cfs on April 1st. Still unknown how high the unregulated flows (without the dams) will reach in June and July.

b. At Bismarck (downstream of Garrison), the peak of the unregulated flow would have been about 260,000 cfs in early June.

c. At Culbertson (downstream of Fort Peck), the peak of the unregulated flow would have been about 103,000 cfs in late May.

cid:image003.png@01CC2901.E81D6B50

cid:image004.png@01CC2901.E81D6B50

cid:image005.png@01CC2901.E81D6B50

-----Original Message-----

From: [REDACTED] Kevin M. NDO

Sent: Saturday, June 11, 2011 4:36 PM

To: [REDACTED] Kevin M. NDO

Subject: RE: Colonel talking points for an internal newsletter (UNCLASSIFIED)

Classification: UNCLASSIFIED

Caveats: NONE

That should work. The earlier in the afternoon, the better sir. Thank you for your help. I do appreciate it.

Very Respectfully,

[REDACTED]
Kevin Wingerl

Public Affairs Specialist

U.S. Army Corps of Engineers Omaha District

[REDACTED]
Office: 402-995-2411

[REDACTED]
www.nwo.usace.army.mil

-----Original Message-----

From: [REDACTED]
Kevin R. Wingerl

Sent: Saturday, June 11, 2011 4:34 PM

To: [REDACTED]

Subject: RE: Colonel talking points for an internal newsletter (UNCLASSIFIED)

Classification: UNCLASSIFIED

Caveats: NONE

I should be able to get these to you by tomorrow afternoon. Is that soon enough?

[REDACTED]
John Grode, P.E.

Reservoir Regulation Team Lead

Missouri River Basin Water Management,

Northwestern Division, USACE

[REDACTED]
[REDACTED] (fax)

-----Original Message-----

From: [REDACTED], Kevin R NWD

Sent: Saturday, June 11, 2011 4:13 PM

To: [REDACTED], Kevin R NWD02

Subject: Colonel talking points for an internal newsletter (UNCLASSIFIED)

Classification: UNCLASSIFIED

Caveats: NONE

[REDACTED]

Jody coughed you up as the resident expert on the following series of questions that I need some basic answers to do develop an internal talking point/morale booster newsletter. How soon can you provide? I need to be able to get Colonel's nod and send to field sometime Monday.

1. The corps releases this last winter and spring were higher than normal - only 2 other years were higher.
2. The Missouri River system of dams has saved \$XX millions of dollars of property damage over the last 50+ years. Countless lives have been saved.
3. Before the dams, the Missouri River flooded every year. (KEVIN IS THERE SOME PLACE I CAN GET INFO OR DO YOU HAVE IT ON WHAT A TYPICAL FLOOD SEASON MIGHT LOOK LIKE IN TERMS OF LENGTH AND GENERAL SIZE OF AREA AFFECTED)
4. The flood of record - as measured at Sioux City (or wherever) was 1881? 1952? And this event, although not over yet is set to rank,? close to? Above?

5. Without the dams, unregulated peak flows would have been XXX thousands of cfs.

Thank you, Kevin, for your help on this.

Very Respectfully,

[Redacted Signature]

Public Affairs Specialist

U.S. Army Corps of Engineers Omaha District

[Redacted Phone Number]

[Redacted Phone Number]

www.nwo.usace.army.mil

Classification: UNCLASSIFIED

Caveats: NONE

Classification: UNCLASSIFIED

Caveats: NONE

Classification: UNCLASSIFIED

Caveats: NONE

Classification: UNCLASSIFIED
Caveats: NONE

NWO

From: Anderson, G Witt NWD
Sent: Sunday, June 12, 2011 12:57 PM
To: Farhat, Jody S NWD02; [REDACTED] Roy P, Jr NWO
Subject: RE: Thank You (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Great work Roy! Thanks,

Witt

-----Original Message-----

From: Farhat, Jody S NWD02
Sent: Sunday, June 12, 2011 10:08 AM
To: [REDACTED]
Cc: Anderson, G Witt NWD
Subject: FW: Thank You (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

[REDACTED] I echo Mr. Marchese's thanks for all you've been doing for us. It's a great help.

Jody

-----Original Message-----

From: [REDACTED] Vincent J LRH
Sent: Sunday, June 12, 2011 11:56 AM
To: Farhat, Jody S NWD02
Cc: [REDACTED] Roy P, Jr NWO
Subject: FW: Thank You (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Jody

I was the H&H desk officer at UOC from 5/31/11 to 6/10/11. While I was there, I had to present the H&H part of the current flooding situation. Without the help of Roy Mcallister that would have been very difficult. With his help I was able to learn the mainstem plan of operation for managing this flood and present it to the UOC so they could do their job - which is a difficult one from where I sat. He was able to get me up to speed very quickly and keep me up-to-date with daily bulletins. He was also invaluable helping me navigate the division and district websites. Thanks for making him available.

[REDACTED] Vincent J. Marchese
Physical Scientist
Water Management Section
Huntington District
[REDACTED] 389-5605

-----Original Message-----

From: [REDACTED]
Sent: Friday, June 10, 2011 12:33 PM
To: [REDACTED]
Subject: RE: Thank You (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

[REDACTED]
For this effort, I am working for the Chief of Water Management, Jody Farhat.

-----Original Message-----

From: [REDACTED]
Sent: Friday, June 10, 2011 6:01 AM
To: [REDACTED]
Subject: Thank You (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Morning [REDACTED]

Today is my last day. Thank you so much for your help. I could not have finished this detail without your help. I am off to Atlanta for the infrastructure conference. Hope to get back to the District the following week. Who is your supervisor so I can send them a thank you also?

Thanks again!

[REDACTED]
Classification: UNCLASSIFIED
Caveats: NONE

Classification: UNCLASSIFIED
Caveats: NONE

Classification: UNCLASSIFIED
Caveats: NONE

Classification: UNCLASSIFIED
Caveats: NONE

Classification: UNCLASSIFIED

From: [REDACTED]
Sent: Sunday, June 12, 2011 12:50 PM
To: Farhat, Jody S NWD02
Subject: RE: ISC CoP Meeting (UNCLASSIFIED)

Thanks, if you think of any key lessons learned send them on. Is there anything we can do to help at this point?

-----Original Message-----

From: Farhat, Jody S NWD02
Sent: Sunday, June 12, 2011 9:27 AM
To: [REDACTED]
Subject: RE: ISC CoP Meeting (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

I guess you can just tell them that this is a historic event on the Missouri River. This will be the highest runoff year on record, and the March - July runoff volume is expected to be at least 10% higher than the reservoir design flood.

Jody

-----Original Message-----

From: [REDACTED]
Sent: Sunday, June 12, 2011 9:59 AM
To: Farhat, Jody S NWD02
Subject: Fw: ISC CoP Meeting

Jody, anything you want me to say or show on your situation?

From: [REDACTED] Jerry W HQ02
To: [REDACTED] [REDACTED] SMD; Bird, Brad A MND; Bocanegra, Lynn M HQ02; [REDACTED] S,
[REDACTED] E MND; Dunn, Christopher N HEC; Edmond, Kaitse T SMD; Farnham, Tody C MND;
Hunt, Jerry W HQ02; Hunter, John W HQ02; Johnson, Billy E BRACEL MND; Lamoreaux, Karlin A MND;
Lundberg, [REDACTED] MND; McDaniel, M LNDON; Pangborn, Timothy ERDC-CRREL-NH; Shadle, Charles
[REDACTED] Shapp, David I HQ02; Su, S. T. SPD; Webb, Jerry W HQ02
Sent: Sun Jun 12 06:36:45 2011
Subject: ISC CoP Meeting

Our CoP meeting will start at 2:00pm Monday. Early in the meeting there is a place for each division to make a few comments and/or highlight lessons learned from the recent floods. We need to keep this brief but I wanted each of you to have the opportunity. Please let me know if you will be attending and want to take a few minutes?? If you have slides we can load them onsite or send them to me and I will go ahead and put them in the presentation.

Jerry W. Webb P.E., D.WRE

Principal Hydrologic & Hydraulic Engineer Hydrology, Hydraulics & Coastal Community of
Practice Leader

[REDACTED]
Washington, DC 20314-1000

[REDACTED] henry.w.hebb@usace.army.mil

[REDACTED] (202) 761-0673

[REDACTED] (202) 761-0470

[REDACTED] (202) 761-0633

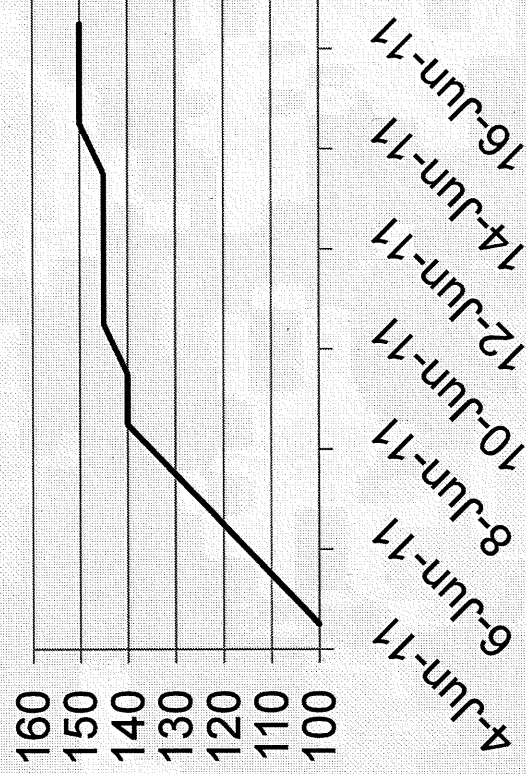
Classification: UNCLASSIFIED

Caveats: NONE

Current Conditions and Forecast

- ▶ Garrison Dam— forecast updated daily
 - 145,000 cfs – today -13 June
 - 150,000 cfs – 14 June
- ▶ Peak releases will continue well into August

Garrisons Release



Missouri River Basin Water Management Situation Report – 6-12-11

Reservoir Conditions

The upper three reservoirs of the Missouri River Mainstem Reservoir System provide the bulk of the storage of water. All three are in their exclusive flood control zones, with Fort Peck passing its spillway crest (continuing up on raised spillway gates) and the other two being near their spillway crests. Table 1 summarizes the situation as of 0000 hours this morning. Relatively high inflows continue to occur into Fort Peck Reservoir from primarily rains earlier in the week. More details on the reservoirs can be found on the daily bulletin prepared by the Missouri River Basin Water Management Division at: <http://www.nwd-mr.usace.army.mil/rcc/reports/showrep.cgi?4BULL0MR1>.

Table 1. Key Reservoir Data (through 0000 hrs 6/12/11)

Reservoir	Inflow kcfs	Outflow kcfs	Top of Spillway	Current Level feet msl	24-hr Change feet
			Gates feet msl		
Fort Peck	91.0	60.6	2250	2251.8	0.2
Garrison	129.0	135.2	1854	1853.1	0.0
Oahe	131.0	150.4	1620	1618.6	-0.2
Big Bend	146.0	146.9	1423	1419.6	-0.1
Fort Randall	149.0	137.5	1375	1362.2	0.2
Gavins Point	145.0	146.1	1210	1207.7	-0.1

Based on the current level data on the upper three reservoirs, the amount of remaining storage has been changing in its distribution among the upper three, larger reservoirs. Fort Peck has become more negative as water is stored higher on the raised spillway gates (surcharged above exclusive flood control). Also, less of the exclusive flood control storage is being used at Garrison and Oahe. The lower three reservoirs have much less capability to store the inflows that are coming into the Missouri River Mainstem Reservoir System, with Fort Randall Reservoir having the greater amount. As of today, the stored water has not yet entered the exclusive flood control zones of the three smaller reservoirs; therefore, 100 percent of their exclusive flood control storage remains available. Table 2 summarizes the storage volumes of all six System reservoirs, with the last column listing the amount of exclusive flood control storage that remains as of today. Spillways are now being used at five of the six reservoirs, with no plans to use the Oahe spillway at this time. Because the spillway gates are open at Fort Peck and the reservoir is now being surcharged over the top of the exclusive flood control zone, the percent of exclusive has become negative. A positive number must always appear for Oahe as long as the spillway gates remain closed at that project. There are no plans at this time to go above 1854, the top of exclusive, at Garrison even though all 28 spillway gates are open.

Table 2. Reservoir Storage Data (through 0000 hrs 6/12/11)

Reservoir	Current	Total	Remaining	Exclusive	% Excl Left
	kAF	kAF	kAF	kAF	
Fort Peck	18,896	18,463	-433	971	-45
Garrison	23,460	23,821	361	1,489	24
Oahe	22,623	23,137	514	1,102	47
Big Bend	1,605	1,798	193	60	100
Fort Randall	4,172	5,418	1,246	985	100
Gavins Point	385	450	65	57	100

Releases from all six reservoirs are currently exceeding records prior to 2011. Table 3 provides release data for all six reservoirs to provide some perspective on the changes that will be happening over the next 2 weeks. Note that the release from Fort Peck has been increased to 65 kcfs today and will be held at that level for at least the next week before it is returned to 60 kcfs. Other than that, the releases 1 week out will be at the currently anticipated maximum releases at the other five reservoirs. A full listing of the data through mid-July is available at: <http://www.nwd-mr.usace.army.mil/rcc/reports/twout.html>.

Table 3. Reservoir Release Comparisons (through 0000 hours 6/12/11)

Reservoir	Yesterday	Forecast	7 days out	14 days out	Pre-2011
	kcfs	Today	19 June	26 June	Record
	kcfs	kcfs	kcfs	kcfs	kcfs
Fort Peck	60.6	65.0	65	60	35
Garrison	135.2	135.0	150	150	65
Oahe	150.4	150.0	150	150	59
Big Bend	146.9	150.0	150	150	74
Fort Randall	137.5	140.0	148	148	67
Gavins Point	146.1	145.0	150	150	70

River Conditions

Levees have been or are currently being constructed by the Corps in six cities from Bismarck/Mandan, ND to South Sioux City, NE, resulting primarily from the releases from Garrison, Oahe, and Gavins Point Dams. Many communities along the lower Missouri River are currently experiencing Missouri River flows that are above flood stage by several feet. The flood stages currently being experienced will be exceeded as Missouri River Mainstem Reservoir System releases increase over the next few weeks to pass the anticipated inflows from mountain snowpack runoff and heavy rains in the Missouri River basin. Table 4 summarizes the current conditions as of 0600 hours this morning and the Corps' current forecast for crest stages. Note that the stage at Pierre is currently just above the forecasted crest elevation for the current upstream release of 150 kcfs.

Table 4. Missouri River Stage Data for 6/12/11 at 0600 CDT

Location	Flood Stage	Current Stage	Forecast Crest Stage	Date of Crest Stage
Bismarck, ND	16	17.6	20-21	mid-Jun
Pierre, SD	13	18.9	18.7	mid-Jun
Sioux City, IA	30	33.1	35-37	mid-Jun thru July
Decatur, NE	35	37.5	40-42	mid-Jun thru July
Omaha, NE	29	31.5	34-36	mid-Jun thru July
Nebraska City, NE	18	24.2	27-28+	mid-Jun thru July
St. Joseph, MO	17	22.9	27-32	mid-Jun thru July
Kansas City, MO	32	24.9	30-39	mid-Jun thru July
Waverly, MO	20	24.1	27-31	mid-Jun thru July
Boonville, MO	21	22.9	27-33	mid-Jun thru July
Hermann, MO	21	22.9	27-33	mid-Jun thru July

Figures 1 and 2 present the plots of the 0600 hour stages at Bismarck and Pierre, respectively. The stages at Bismarck have not reached the initial estimated levels as the Garrison Reservoir releases have increased. The reduction is likely due to the scouring of the channel as the flows are well above the levels in recent years. The stages at Pierre have closely followed the estimated levels, being just slightly over the initial estimate for crest elevation, as the upstream Oahe Reservoir releases have reached the 150-kcfs level. The stages at both cities are still 3 to 4 feet below the constructed levee crests.

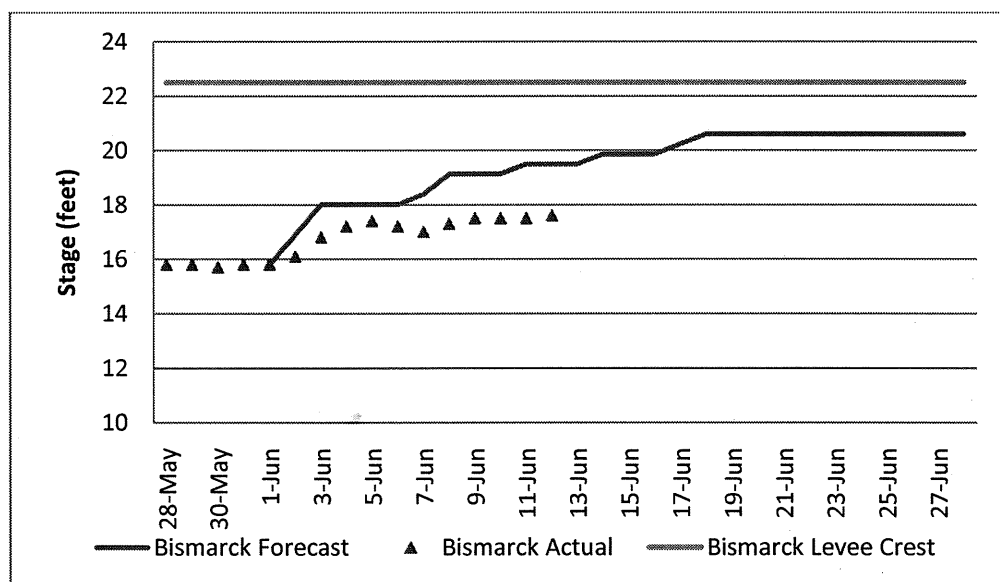


Figure 1. Missouri River stages at Bismarck, North Dakota.

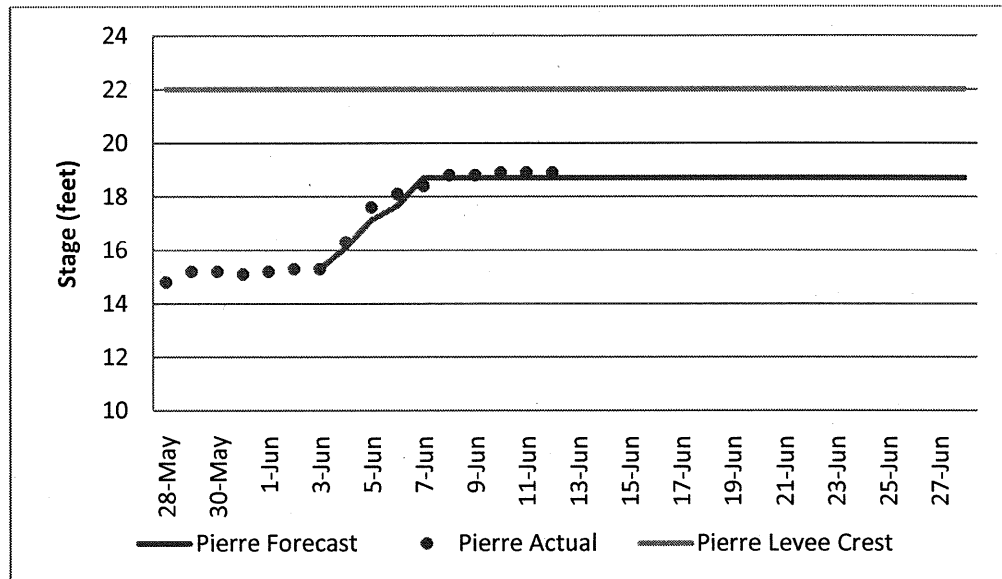


Figure 2. Missouri River stages at Pierre, South Dakota.

Information on Current Mountain Snowpack and Forecasted Rainfall

Releases from the System reservoirs are based on snowpack and rainfall forecasts in the Missouri River basin. An updated snowfall forecast has not yet been prepared today; however, the Hydrologic Prediction Center (HPC) of NOAA prepares a rainfall forecast daily for up to the next 5 days, with an accumulated figure also presented on its website. The next 5 days do not look good as widespread rain is forecasted for much of the Missouri River Basin, including heavier rainfall in North Dakota, South Dakota, and in a large area of the lower basin. Figure 3 is the accumulated 5-day rainfall forecast for today by HPC, and Figure 4 is Friday's mountain snowpack update by the Corps.

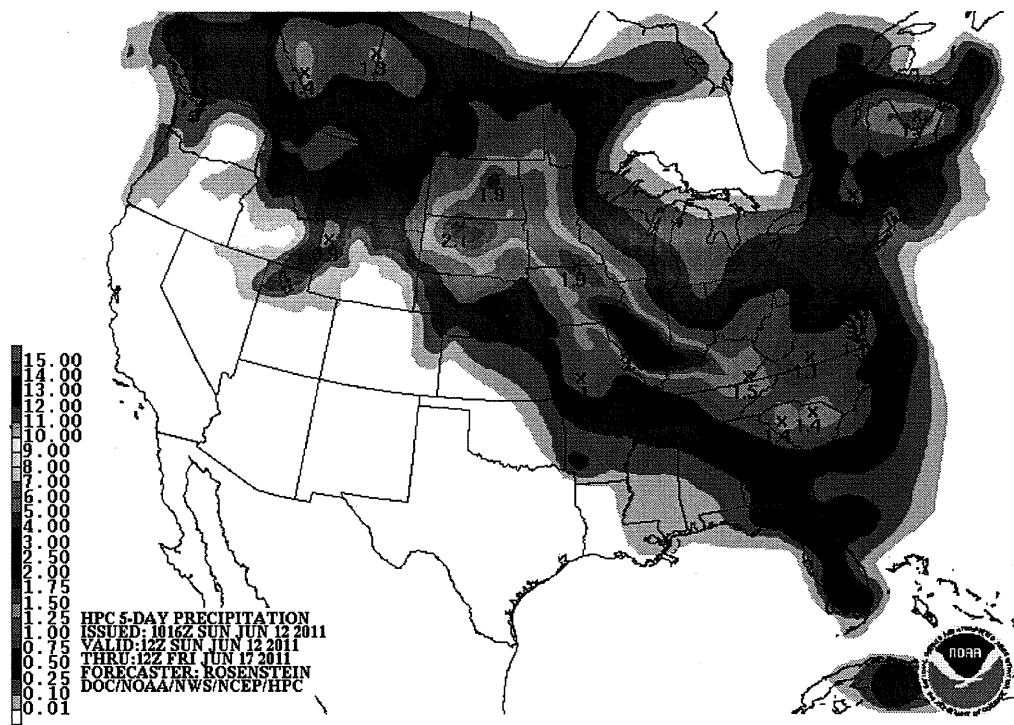


Figure 3. 5-day total QPF ending 0700 Friday, June 17, 2011.

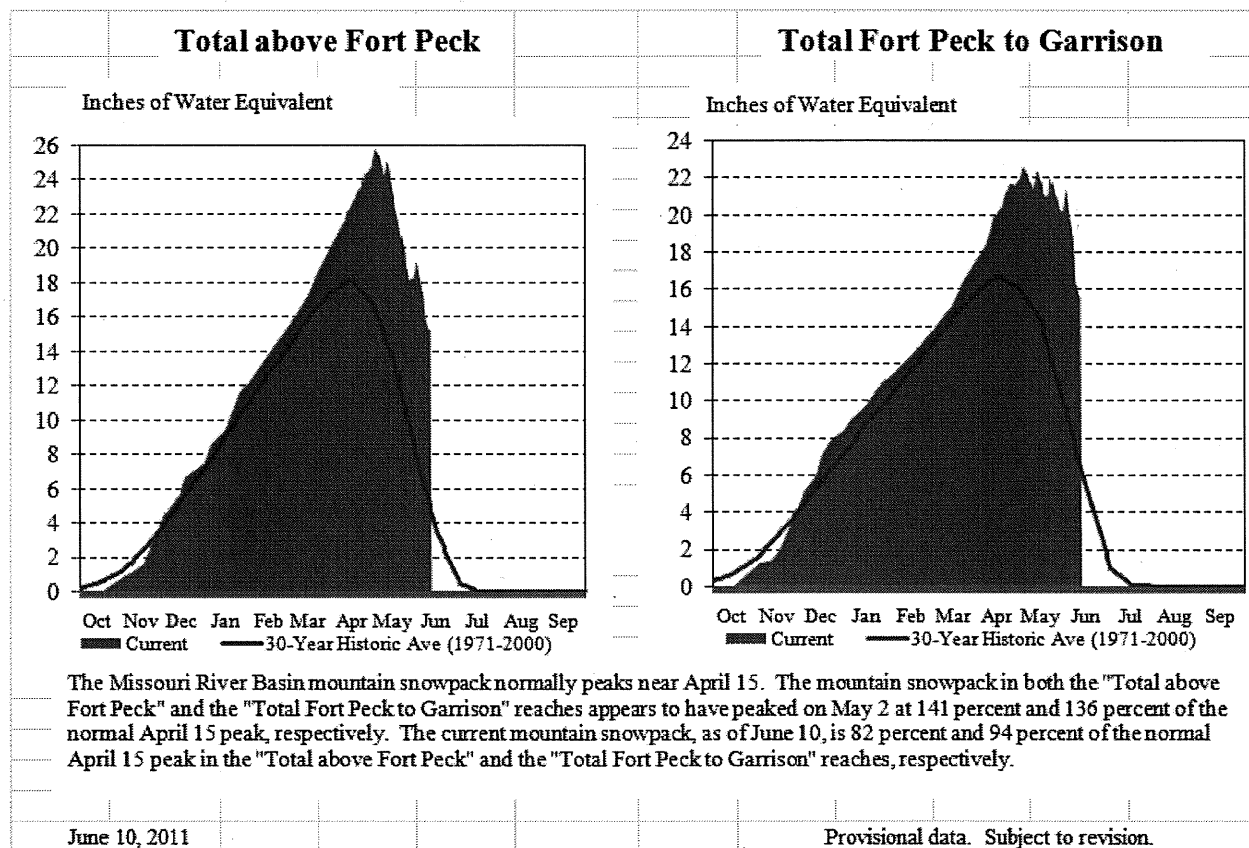


Figure 4. Missouri River basin mountain snowpack water content summary, 2010-2011 – June 10, 2011.

Current Actions and Notable Information

Levee construction for six cities is basically completed to prepare for the high flows on the Missouri River that will result from the increased releases from the Missouri River Mainstem System reservoirs. The Omaha District has been working with the cities of Bismarck/Mandan, ND, Pierre/Ft. Pierre, SD, Dakota Dunes, SD, and South Sioux City, NE to construct levees to limit flood impacts to those cities. Floodplain evacuations have been ongoing for many lower-lying areas along the lower Missouri River. A levee is also currently being constructed to protect Hamburg should the L-575 levee fail. Issues have surfaced on the capability of this levee to make it through the flood due to three slump failures in the past week at river stages that have not yet exceeded those experienced in the high flows of 2010.

Figure 5 is a plot showing the nearest gage 0600 stages for 2010 and 2011 (through today), both years with high river stages at Nebraska City. This figure shows that the river level began to rise a little yesterday after it had been relatively static for the previous 14 days at a level just under the maximum that occurred in 2010. The forecasts for river stages at Nebraska City for the next week have been revised down slightly to show a rise to 25.1 feet by next Friday, June 17.

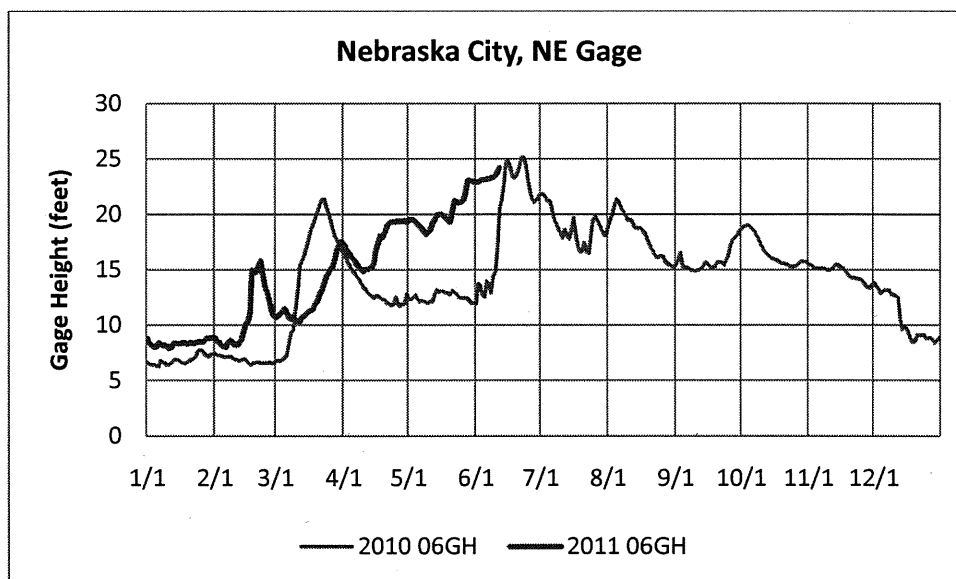


Figure 5. River stages at Nebraska City, Nebraska for 2010 and 2011.

Floodplain inundation maps have been posted by the Omaha District to identify the areas of potential flooding for the emergency managers and the public. The Kansas City District's floodplain inundation maps are now available on its Flood Response Information website. Overtopping of levees information is also available from both districts.

Spotty cells of heavy rains occurred throughout the basin yesterday and over night, with generally light rainfall over a major part of the basin. Figure 6 shows the amount of rain that fell yesterday in the basin and surrounding area of the Central Region of the United States.

NWS Central Region: Current 1-Day Observed Precipitation
Valid at 6/12/2011 1200 UTC- Created 6/12/11 15:48 UTC

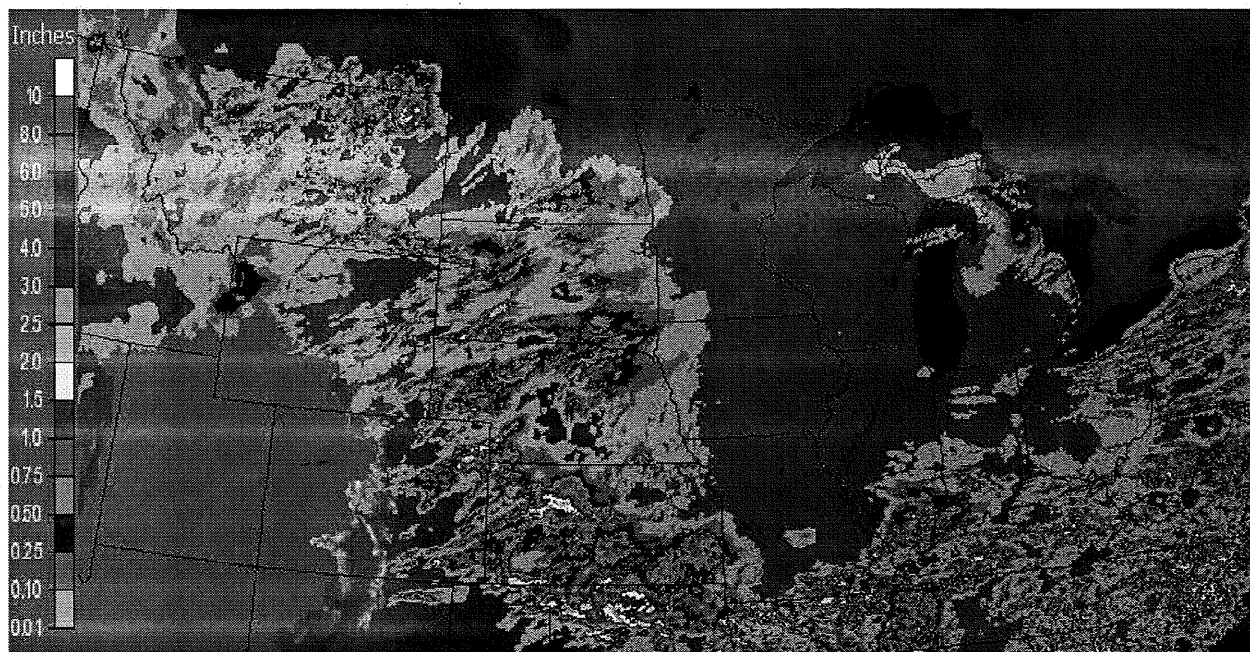


Figure 6. Rainfall on the Central Region of the United States for June 11, 2011.

[REDACTED] NWO

From: [REDACTED]
Sent: Sunday, June 12, 2011 12:13 PM
To: Farhat, Jody S NWD02; [REDACTED]
Cc: [REDACTED]
Subject: RE: Emailing: Omaha District -www-ns-home-docs-rcc-reports-db-TRIB_RESERVOIRS Bulletins-Reports.htm (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Yes, we'll chase it down. In the meantime, the same information is available on the Omaha District website:

http://www.nwo.usace.army.mil/hydro/water_control/bulletins/dailybull.pdf

[REDACTED]
Kevin Grode, P.E.
Reservoir Regulation Team Lead
Missouri River Basin Water Management,
Northwestern Division, USACE

-----Original Message-----

From: Farhat, Jody S NWD02
Sent: Sunday, June 12, 2011 8:34 AM
To: [REDACTED]
Cc: [REDACTED]
Subject: Re: Emailing: Omaha District -www-ns-home-docs-rcc-reports-db-TRIB_RESERVOIRS Bulletins-Reports.htm (UNCLASSIFIED)

[REDACTED] can you check on this bulletin and make sure it gets updated and posted.

Jody

----- Original Message -----


From: [REDACTED]
To: Farhat, Jody S NWD02
Cc: [REDACTED] HQ02; Johnston, Paul T HQ@ NWO
Sent: Sun Jun 12 05:35:12 2011
Subject: Emailing: Omaha District -www-ns-home-docs-rcc-reports-db-TRIB_RESERVOIRS Bulletins-Reports.htm (UNCLASSIFIED)

<<Omaha District -www-ns-home-docs-rcc-reports-db-TRIB_RESERVOIRS Bulletins-Reports.htm>>
Classification: UNCLASSIFIED
Caveats: NONE

Jody:

The attached/this link http://www.nwd-mr.usace.army.mil/rcc/reports/showomarep.cgi?0TRIB_RESERVOIRS is the page that caused some of the frustration yesterday from Commissioner Armstrong. I checked the page this morning and it is still accessible but has not been updated since 2 Jun. Do you know if it will be updated

in the near future? Paul provided similar pages that I forwarded to the commissioner but still would like an answer if it is scheduled to be updated. Thanks.


Classification: UNCLASSIFIED
Caveats: NONE

Classification: UNCLASSIFIED
Caveats: NONE

[REDACTED] NWO

From: [REDACTED]
Sent: Sunday, June 12, 2011 10:38 AM
To: Farhat, Jody S NWD02
Subject: FW: FEMA National Situation Report for June 12, 2011 (UNCLASSIFIED)
Attachments: 2011june12fema_natl_sitrep.pdf

Classification: UNCLASSIFIED
Caveats: NONE

Here is what FEMA National is putting out regarding the reservoir releases.

[REDACTED]

Classification: UNCLASSIFIED
Caveats: NONE



FEMA

National Situation Report

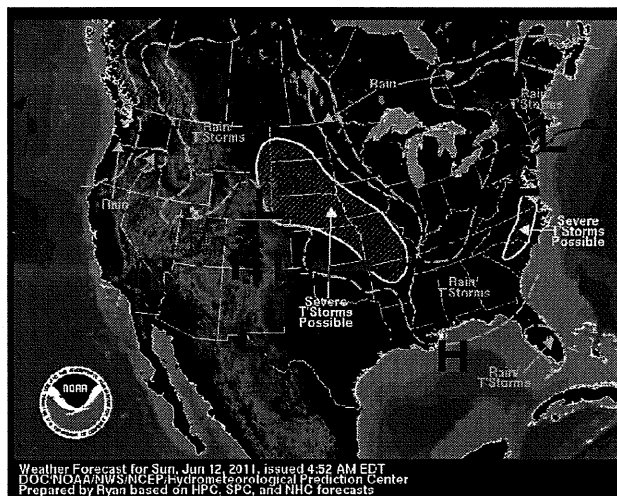
As of 5:30 a.m. (EDT) Sunday, June 12, 2011

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Significant National Weather

Midwest

Scattered showers and thunderstorms will continue to impact the Upper Midwest and Central Plains this morning, becoming more widespread by tonight. Some storms may become severe, with locally heavy rain and strong winds possible. Heavy rain may produce temporary rises in rivers and streams that are already experiencing minor to moderate flooding in portions of Kansas, Missouri and Iowa; rivers are expected to recede quickly after today. Flash flooding is possible for western North Dakota.



Northeast

Scattered showers and thunderstorms are expected in northern Maine, heavier rain is expected this evening. Some storms may become severe with damaging winds, large hail and tornadoes possible. Cooler temperatures are expected across the Region.

South

Daytime heating will produce afternoon showers and thunderstorms across the Southeast and Gulf Coast. Hot temperatures will continue across Texas and along the central Gulf Coast.

West

A cold front moving into the Pacific Northwest later today will create the possibility for scattered showers and isolated thunderstorms along the West Coast from northern California to Washington. Showers and thunderstorms will cross the northern Rockies into the Northern High Plains today; some storms may become severe. Warming temperatures this week will increase snowmelt in the southern Sierra Nevada Mountains; Flood Warnings are in effect for portions of central California. Strong winds and low relative humidity have produced Critical fire weather conditions in portions of Arizona, Utah, Colorado and New Mexico; Red Flag Warnings are in effect in these areas through this evening. (NOAA, NWS and various media sources)

Missouri River Basin Flooding

Current situation

USACE will sustain mandatory low flow releases on four reservoirs in Kansas until Missouri River falls below flood stage. USACE continues to manage the release of water from multiple reservoirs.

FEMA Logistics

Two FEMA Logisticians are deployed to the Nebraska EOC. Commodities are centralized at SA Ellsworth AFB in Rapid City, SD (EM-3319), Bismark, Minot and Mitchell supporting ND, SD, and MT. FEMA HQ has sourced generators and water pumps, if needed.

North Dakota

SEOC remains activated at Level I (Full Activation). Evacuations are ongoing in Burleigh, Morton and Ward Counties in ND. One American Red Cross shelter remains open with 7 occupants.

South Dakota

SD EOC remains at Level I (Full Activation). Voluntary evacuations are ongoing in Hughes and Stanley County (Pierre, Ft Pierre, and Dakota Dunes). Two American Red Cross shelters remain open with 16 occupants.

Montana

SEOC is activated at Level III (Partial Activation) due to flooding. IMAT Type II is located in the State EOC. A FEMA Tribal Liaison remains deployed. Forty tribal families from Fort Peck voluntarily evacuated due to opening of Fort Peck Spillway. One American Red Cross shelter remains open with 42 occupants.

Nebraska

State EOC is at Level II (Partial Activation) due to flooding. Eight counties remain under States of Emergencies. Evacuation of residents in low lying areas continues in portions of 12 counties (approx 500 residents). Power has been disconnected to flooded areas in 2 counties. Two American Red Cross shelters open with 4 occupants; shelter will serve communities in IA and NE.

Iowa

State EOC is at Level IV with an after- hours duty officer. An SLO is deployed to the State EOC. On June 9, a full breach of Federal Levee L575 near Hamburg (Fremont County) occurred along Missouri River. USACE is building 3 segments to the levee that is collapsing; Segment 1 is complete, segment 2 is 80% complete and expected to be completed next week. Work on the third segment is ongoing (15% complete). Six shelters remain on standby for residents of Washington County.

Utah

A levee breach in Weber County occurred on June 9, 2011, and threatened 15 homes near Plain City. Repairs are ongoing.

Mississippi Valley Flooding

USACE continues monitoring water levels throughout the Mississippi River and Tributary System, providing flood fighting measures as needed.

FEMA Region VI

Region VI is at Watch/Steady State.

Louisiana

The SEOC remains activated at CAT Level. USACE continues to close Morganza Floodway Control Structure, one bay remains open. Floodgates are beginning to close on the Bonnet Carre Spillway. Thirty gates were closed on June 11 with an additional 20 gates scheduled to close today; 300 out of 350 bays open.

USACE Dam Release – as of June 11, 0800

Dam		Flow Rates(cubic feet per second)			Previous Record Flow / Year
		Daily Avg Release (Jun 9-10)	Next Scheduled Flow Rate Increase	Projected Final Flow Rate	
Fort Peck	MT	58.9k	60k	60k	35k 1975
Garrison	ND	133.5k	140k	150k	65k 1975
Oahe	SD	150.5k	150k	150k	59k 1997
Big Bend	SD	147.0k	150k	150k	74k 1997
Fort Randall	SD	136.9k	148k	150k	67k 1997
Gavins Point	SD	143.4k	145k	150k	70k 1997

Severe Storms – Northeast – Final

FEMA Region I

The Connecticut EOC deactivated on June 11, 2011. Severe thunderstorms, heavy rains and high winds swept across the Region the evening of June 9, 2011. Approximately, 5,265 customers reported without power (as 11:20 p.m. EDT June 11). One American Red Cross shelter remains open with 3 occupants.

Earthquake Activity

No significant activity. (*USGS*)

Tropical Activity

Atlantic / Caribbean / Gulf of Mexico

No activity expected within the next 48 hours.

Eastern / Central Pacific

Tropical Depression Adrian

At 2:00 a.m. EDT the center of Tropical Depression Adrian was located 570 miles southwest of the southern tip of Baja, CA. A turn to the west-northwest with a decrease in forward speed is expected during the next day or two. Tropical Depression Adrian is expected to become a Remnant Low later today and dissipate within a few days.

Western / South Pacific:

No activity affecting U.S. interests (*NOAA, NWS, NHC, CPHC JTWC*)

National Fire Activity

Friday, June 10, 2011:

- National Preparedness Level: 3
- Initial attack activity: Moderate (223 new fires)
- New Large Fires: 10
- Large Fires Contained: 9
- Uncontained Large Fires: 24
- Type 1 IMT Committed: 6
- Type 2 IMT Committed: 5
- States affected: AZ, NM, GA, NC, TX, AL, MS, FL, CA and AK. (*NIFC*)

Fire Management Assistance Grant (FMAG)

On June 11, 2011, the FMAG for the Shell Fire burning in the State of Colorado was denied. (*FEMA HQ*)

Current Situation

Fire Activity

Wallow Fire (*AZ: Apache, Navajo, Graham & Greenlee Counties; NM: Catron County*)

Current Situation: The fire has consumed 430,171 acres and is 6% contained. Three Type 1 IMTs remain assigned to the fire. Improved weather conditions allowed for successful burnout operations in locations near Greer, Eager and Alpine. There are 3,208 personnel assigned. One Type II team was demobilized.

Impacts:

Approximately 2,714 homes and 473 commercial properties are threatened; 29 homes and 4 commercial properties were destroyed. 5 homes and 1 outbuilding have been damaged.

Six injuries have been reported.

Evacuations:

Approximately 7,300 total evacuees in AZ and NM, not including summer home residents and campground occupants.

Apache County, AZ: Full evacuations continue for Eagar, Springerville, Sunrise, Greer, Blue River,

Alpine, Nutrioso and surrounding communities. A pre-evacuation alert remains in effect for Greens Peak, Hidden Meadows Lodge and the surrounding areas.

Catron County, NM: Luna remains under a pre-evacuation alert. Voluntary evacuation orders continue throughout portions of the County. Previous reporting indicated a potential timeframe when some AZ evacuees would be able to return to their homes; however, there is no longer an anticipated time for evacuee re-entry.

Horseshoe 2 Fire (Cochise County)

Current Situation: The fire has consumed 134,615 acres and is 45% contained. One Type 1 IMT is assigned to the fire; full containment is expected around June 22. Due to lighter winds, firefighters were able to construct and improve containment lines on the fire's northern and western flanks using both hand crews and dozers. Nine residences and 14 structures have been damaged or destroyed.

Response:

There are 1,153 personnel assigned. Evacuations remain in effect for Whitetail, West Turkey Creek, and Pinery Creek areas.

Federal Activity

FEMA Region VI and IX

RRCCs are at Watch/Steady State. One FEMA Region VI LNO is on standby for deployment to New Mexico. Seven RIX LNOs are deployed as follows: (3) Arizona State EOC, (1) National Interagency Fire Center, in Boise, ID, (2) Wallow Fire Incident Command Post, (1) Geographic Area Coordination Center in Albuquerque, NM. There are no shortfalls or unmet requirements. FEMA-2915-FM-AZ approved June 2, 2011; FEMA-2917-FM-NM approved June 10, 2011.

State/Local Activity

Arizona / New Mexico

The AZ State EOC is fully activated; NM State EOC is partially activated. The Arizona Governor declared a State of Emergency on June 6, 2011. AZ has one shelter open with 55 occupants; no shelters are open in NM. US Highways 60 and 180 remains closed at the New Mexico/Arizona state line. There is no threat to the bulk electric system. Due to the resilience of the electric grid, any service disruptions are likely to be isolated.

Alaska

East Volkmar Fire

Located approximately 25 miles northeast of Delta Junction. The fire has consumed 58,050 acres with 7% containment.

Hasting Fire

Located on state land burning approximately 15 miles northwest of Fairbanks. The fire has consumed 25,540 acres with 18% containment. Temporary flight restrictions are in place over the fire. Evacuation advisories were issued for the Hayes Creek Subdivision.

Utah

Barn Fire

Located on the Shivwits Indian Reservation, Washington County. The fire has consumed 1,237 acres on Bureau of Indian Affairs land with an unknown containment. No structures are threatened. One outbuilding and a bare were damaged. All evacuees have been allowed to return to their homes. No injuries or fatalities have been reported.

FEMA Region VI and IX

RRCCs are at Watch/Steady State. One FEMA Region VI LNO is on standby for New Mexico. There are no shortfalls or unmet requirements.

Disaster Activity

No activity (*FEMA HQ*)

Joint Preliminary Damage Assessment Activity

				Number of Counties/Tribes			
Region	State	Event	IA/ PA	Requested	Ongoing	Complete	(Estimated) Start / End Date
II	NY	Spring Flooding 4/26	PA	8	0	0	Begin 6/14
IV	KY	Severe Weather 4/24 DR-1976	IA	36	1	31(Revisit 2 counties)	Began 5/9 End 6/13
			PA	84	5	77	Began 5/2 End 6/10
IV	MS	Severe Weather 5/3	PA	14	2	0	Began 6/10 End TBD
VI	AR	Flooding 4/25	IA	40	0	40	Began 4/30 End TBD
			PA	61	0	61	Began 4/30 End TBD
VII	KS	Severe Storms 6/1		24	0	0	Begin 6/17 End TBD

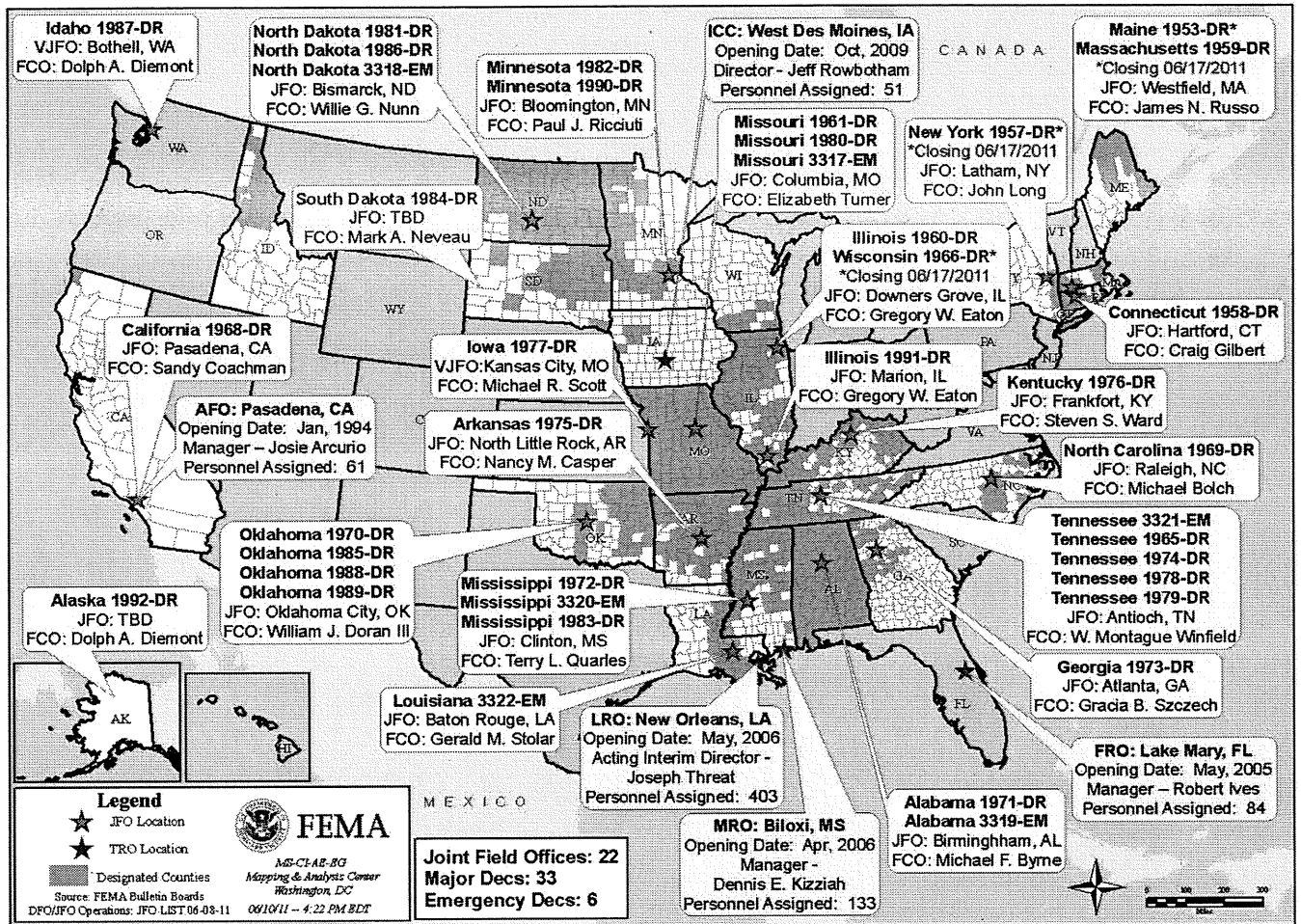
Activation Levels

Region	RRCC Status /Hours	Watch Hours
Region I	Watch/Steady State	Maynard MOC (24/7)
Region II	Watch/Steady State	24/7
Region III	Watch/Steady State	24/7
Region IV	Watch/Steady State	24/7
Region V	Watch/Steady State	24/7
Region VI	Watch/Steady State	Denton MOC (24/7)
Region VII	Level III	24/7
Region VIII	Level III	Denver MOC (24/7)
Region IX	Watch/Steady State	24/7
Region X	Watch/Steady State	Bothell MOC (24/7)

On-Call and Deployed Teams

Teams	Status	
National IMAT Red	Activated	Deployed to MS
National IMAT White	Not Activated	
National IMAT Blue	Activated	Deployed to AL
Region I IMAT	Activated	Deployed to MA
Region II IMAT	Not Activated	
Region III IMAT	Activated	Type II deployed to KY
Region IV IMAT	Activated	Type II deployed to TN and AL
Region V IMAT	Not Activated	
Region VI IMAT	Activated	Type II supporting 1975-DR-AR Type III Supporting 1971-DR-TX Type III deployed to OK
Region VII IMAT	Activated	Type II 1980-DR-MO Type III on alert for IA, KS Type II deployed to NE
Region VIII IMAT	Activated	Type III supporting DR-1984-SD Type III supporting DR-1981/1986 ND Type II deployed to MT for flooding Type III supporting State EOC in WY
Region IX IMAT	Not Activated	
Region X IMAT	Not Activated	
Other FEMA National Teams		
Hurricane Liaison Team	Activated	
NRCC	Not Activated	
National Watch Center	24/7	
DEST	Not Activated	

Open Field Offices & Designated Counties as of 06/12/2011



MapID 3672976fd940610111558hagrad

[REDACTED] NWO

From: [REDACTED]
Sent: Sunday, June 12, 2011 10:29 AM
To: [REDACTED]
Subject: Fw: 24 hour precipitation totals via local storm reports-QC'd data
Attachments: LSR June11-12.xlsx

FYI

This is a different precipitation product than the daily report from Julie Meyer(RFC).
Thanks for your time.
Happy Sunday!!!!!!

[REDACTED]
-----Original Message-----

From: Rebecca.Kern@noaa.gov [<mailto:Rebecca.Kern@noaa.gov>]
Sent: Sunday, June 12, 2011 10:20 AM
To: [REDACTED]
Subject: 24 hour precipitation totals via local storm reports-QC'd data

[REDACTED]
We can customize this to your needs. Let me know what you do/don't need/like and we can go from there.

Becky

Local Storm Reports (timestamps are UTC)

Report Time	County	Location	ST	Event Type	Mag	Lat	Lon	Remarks
Sat Jun 11 22:30:00 CDT 2011	Valley	21 N Nashua	MT	FLASH FLOOD	0	48.44	-106.36	GEER RD...APX 11 MILES NORTH OF NASHUA...WASHED OUT AND CLOSED
Sun Jun 12 01:00:00 CDT 2011	Valley	11 Nine Nashua	MT	FLASH FLOOD	0	48.28	-106.28	SARGENT CREEK...11 MILES NORTH OF NASHUA IS RUNNING OUT OF ITS BANKS
Sun Jun 12 01:00:00 CDT 2011	Valley	11 N Nashua	MT	FLASH FLOOD	0	48.29	-106.36	EAST FORK OF THE WOLF CREEK IS UP AND FLOWING OUT OF ITS BANKS. STILL RAINING VERY HARD.
Sun Jun 12 02:55:00 CDT 2011	Roosevelt	17 Ninw Wolf Point	MT	FLASH FLOOD	0	48.32	-105.78	MANY STREETS IN WOLF POINT ARE FLOODING. THE UNDERPASS TO DOWNTOWN IS QUICKLY FILLING WITH WATER.
Sun Jun 12 04:52:00 CDT 2011	Roosevelt	Wolf Point	MT	FLASH FLOOD	0	48.09	-105.64	
Sat Jun 11 23:00:00 CDT 2011	Valley	14 Nine Nashua	MT	HEAVY RAIN		2.5 48.32	-106.24	
Sat Jun 11 23:45:00 CDT 2011	Valley	19 Nine Nashua	MT	HEAVY RAIN	2	48.39	-106.2	
Sat Jun 11 23:45:00 CDT 2011	Fall River	11 S Oakrichs	SD	HEAVY RAIN	1.4	43.02	-103.23	
Sat Jun 11 23:45:00 CDT 2011	Valley	19 N Nashua	MT	HEAVY RAIN	2	48.41	-106.36	RAIN FELL WITHIN 30 MINUTES. PEA SIZED HAIL WAS MIXED IN. WATER IS EVERYWHERE.
Sun Jun 12 00:00:00 CDT 2011	Valley	14 N Nashua	MT	HEAVY RAIN	3	48.33	-106.36	TWO TO THREE INCHES OF RAIN FELL BETWEEN 12 MILES NORTH AND 17 MILES NORTH OF NASHUA. WATER IS COVERING THE FIELDS.
Sun Jun 12 00:40:00 CDT 2011	Roosevelt	5 Ninw Volt	MT	HEAVY RAIN	1.4	48.45	-105.78	
Sun Jun 12 01:33:00 CDT 2011	Garden	15 Sw Oshkosh	NE	HEAVY RAIN	1	41.25	-102.55	
Sun Jun 12 01:33:00 CDT 2011	Deuel	19 Sw Oshkosh	NE	HEAVY RAIN	1	41.21	-102.6	
Sun Jun 12 02:31:00 CDT 2011	Garden	Oshkosh	NE	HEAVY RAIN	1	41.41	-102.34	

[REDACTED] NWO

From: [REDACTED]
Sent: Sunday, June 12, 2011 10:12 AM
To: Love, Raymond E MAJ NWD; [REDACTED]
Cc: Farhat, Jody S NWD02
Subject: WM Update - 6-12-11 (UNCLASSIFIED)
Attachments: NWD Missouri Basin Update - 061211.pptx

Classification: UNCLASSIFIED
Caveats: NONE

[REDACTED]
Today's Update is attached.

[REDACTED]
Missouri River Basin Water Management Division Northwestern Division Corps of Engineers

[REDACTED]
[REDACTED] 402-996-3867
[REDACTED] [REDACTED]@usace.army.mil

Classification: UNCLASSIFIED
Caveats: NONE

Missouri River Basin Stages

12 June 2011



Station	Flood Stage	Current Stage	Likely Range of Highest* Flows/Stages	Projected Date **	Record Stage (Year)
A	16	17.6	150 kcfs 20.6	June 19	
B	13	18.9	150 kcfs 18.7	June 7	
C	20	24.6	150 kcfs n/a	June 14	
D	30	33.1	170 kcfs 35	June 15	44.28 (1952)
E	35	37.5	175 kcfs 40	June 15	43.5 (1943)
F	26	31.1	175 kcfs 32	June 15	33.5 (1952)
G	29	31.5	175 kcfs 34	June 16	40.2 (1952)
H	18	24.2	200 kcfs 27	June 16	27.19 (1993)
I	33	40.4	205 kcfs 43	June 16	44.3 (1993)
J	17	24.2	210 kcfs 25.5	June 17	26.63 (2010)
K	17	22.9	215 kcfs 27	June 17	32.07 (1993)
L	22	25.7	215 kcfs 30	June 17	31.63 (1993)
M	20	21.4	215 kcfs 27	June 17	35.34 (1993)

Missouri River Basin Stages

12 June 2011



	Station	Flood Stage	Current Stage	Likely Range of Highest* Flows/Stages		Projected Date **	Record Stage (Year)
N	Kansas City	32	24.9	220 kcfs 30	350 kcfs 39	June 18	48.87 (1993)
O	Sibley	22	24.1	220 kcfs 28	350 kcfs 33	June 18	40.6 (1952)
P	Napoleon	17	21.0	220 kcfs 25	350 kcfs 29	June 18	28.86 (2007)
Q	Waverly	20	24.1	230 kcfs 27	370 kcfs 31	June 18	31.15 (1993)
R	Miami	18	22.4	235 kcfs 26	370 kcfs 30	June 19	32.6 (1993)
S	Glasgow	25	25.9	250 kcfs 32	410 kcfs 37	June 19	39.5 (1993)
T	Boonville	21	22.9	260 kcfs 27	420 kcfs 33	June 19	37.1 (1993)
U	Jefferson City	23	22.3	260 kcfs 27	430 kcfs 35	June 19	38.3 (1993)
V	Chamois	17	19.0	290 kcfs 24	450 kcfs 29	June 19	33.3 (1993)
W	Gasconade	22	25.3	300 kcfs 30	470 kcfs 35	June 19	39.6 (1993)
X	Hermann	21	22.9	300 kcfs 27	470 kcfs 33	June 20	36.97 (1993)
Y	Washington	20	19.3	300 kcfs 23	470 kcfs 32	June 20	35.4 (1993)
Z	St. Charles	25	25.4	300 kcfs 28	470 kcfs 37	June 20	40.04 (1993)

NWO

From:
Sent:
To:

Sunday, June 12, 2011 9:51 AM

NWO; 'bruce.sullivan@noaa.gov'; 'bruce.terry@noaa.gov'

Davis, Joseph M Maj NWO; [REDACTED]

Farhat, Jody S NWD02; F [REDACTED]

'michael.eckert@noaa.gov'; [REDACTED]

M NWO; 'robert.kelly@noaa.gov'; Ruch, Robert J COL NWO; [REDACTED]

Thomas, Kimberly S NWO; Tipton, Robert A Col NWD: [REDACTED]

D; Blechinger, Erik T NWO; [REDACTED]

Austin-Smith, Christina A [REDACTED]

Subject:
Attachments:

Riverwatch Daily Update June 12, 2011 (UNCLASSIFIED)

Flood_Fight_Storyboard_12JUN.docx

Classification: UNCLASSIFIED
Caveats: NONE

Missouri River Mainstem Reservoir Bulletin (Updated 12 Jun; 0900 CDT)

Fort Peck (In operation since 1940)
Midnight Elevation
* 2251.8 ft msl
* 24-hr Change (+0.2ft)

Daily Avg. Inflow
* 91,000 cfs (11 Jun)
* 81,000 cfs (10 Jun)

Daily Avg. Release
* 60,600 cfs (11 Jun)
* 58,900 cfs (10 Jun)

Annual Flood Ctrl & Multi-Use Zone (Elevation)
* 2234 ft msl - 2246 ft msl

Exclusive Flood Ctrl Zone (Elevation)
* 2246 ft msl - 2250 ft msl

Top of Spillway Gates
* 2250 ft msl

Planned Scheduled Releases (Subject to Change)
* Releases will be stepped up to 65,000 cfs.
* Reservoir will use several feet of surcharge storage above the exclusive flood control pool as spillway gates are raised.

Record Pool Elevation (Year)
* 2251.6 msl (1975)

Record Flow (Year)
* 35,000 cfs (1975)

Projected Record Flow (Date)
* 65,000 cfs (Mid June)

Garrison (In operation since 1955)
Midnight Elevation
* 1853.1 ft msl
* 24-hr Change (0.0 ft)

Daily Avg. Inflow
* 129,000 cfs (11 Jun)
* 125,000 cfs (10 Jun)

Daily Avg. Release
* 135,200 cfs (11 Jun)
* 133,500 cfs (10 Jun)

Annual Flood Ctrl & Multi-Use Zone (Elevation)
* 1837.5 ft msl - 1850 ft msl

Exclusive Flood Ctrl Zone (Elevation)
* 1850 ft msl - 1854 ft msl

Top of Spillway Gates
* 1854 ft msl

River Stage (Bismarck)
* 17.64 (0715 CDT 12 Jun)
* Flood stage - 16 ft
* 17.51 (0715 CDT 11 Jun)

Planned Scheduled Releases (Subject to Change)
* Releases will be stepped up to 150,000 cfs by mid June.
* Spillway gates are being used to pass floodwaters.

Record Pool Elevation (Year)
* 1854.8 msl (1975)

Record Flow (Year)
* 65,000 cfs (1975)

Projected Record Flow (Date)
* 150,000 cfs (Mid June)

Oahe (In operation since 1962)
Midnight Elevation
* 1618.6 ft msl
* 24-hr Change (-0.2 ft)

Daily Avg. Inflow
* 131,000 cfs (11 Jun)
* 132,000 cfs (10 Jun)

Daily Avg. Release

- * 150,400 cfs (11 Jun)
- * 150,500 cfs (10 Jun)

Annual Flood Ctrl & Multi-Use Zone (Elevation)

- * 1607.5 ft msl - 1620 ft msl

Exclusive Flood Ctrl Zone (Elevation)

- * 1617 ft msl - 1620 ft msl

Top of Spillway Gates

- * 1620 ft msl

River Stage (Pierre)

- * 18.87 (0715 CDT 12 Jun)
- * Flood stage - 15 ft
- * 18.9 (0715 CDT 11 Jun)

Planned Scheduled Releases (Subject to Change)

- * Releases have been stepped up to 150,000 cfs.
- * Reservoir will peak within a foot of the top of the spillway gates at 1619 feet.

Record Pool Elevation (Year)

- * 1618.7 msl (1995)

Record Flow (Year)

- * 59,000 cfs (1997)

Projected Record Flow (Date)

- * 150,000 cfs (Mid June)

Big Bend (In operation since 1964)

Midnight Elevation

- * 1419.6 ft msl
- * 24-hr Change (-0.1 ft)

Daily Avg. Inflow

- * 146,000 cfs (11 Jun)
- * 148,000 cfs (10 Jun)

Daily Avg. Release

- * 146,900 cfs (11 Jun)
- * 147,000 cfs (10 Jun)

Annual Flood Ctrl & Multi-Use Zone (Elevation)

- * 1420 ft msl - 1423 ft msl

Exclusive Flood Ctrl Zone (Elevation)

- * 1422 ft msl - 1423 ft msl

Top of Spillway Gates

- * 1423 ft msl

Planned Scheduled Releases (Subject to Change)

- * Releases will be stepped up to 150,000 cfs by mid June.
- * Reservoir will remain essentially level at 1420 feet.

Record Pool Elevation (Year)

* 1422.1 msl (1991)

Record Flow (Date)

* 74,000 cfs (1997)

Projected Record Flow (Date)

* 150,000 cfs (Mid June)

Fort Randall (In operation since 1953)

Midnight Elevation

* 1362.2 ft msl

* 24-hr Change (+0.2 ft)

Daily Avg. Inflow

* 149,000 cfs (11 Jun)

* 156,000 cfs (10 Jun)

Daily Avg. Release

* 137,500 cfs (11 Jun)

* 136,900 cfs (10 Jun)

Annual Flood Ctrl & Multi-Use Zone (Elevation)

* 1350 ft msl - 1375 ft msl

Exclusive Flood Ctrl Zone (Elevation)

* 1365 ft msl - 1375 ft msl

Top of Spillway Gates

* 1375 ft msl

Planned Scheduled Releases (Subject to Change)

* Releases will be stepped up to 150,000 cfs by mid June.

Record Pool Elevation (Year)

* 1372.2 msl (1997)

Record Flow (Date)

* 67,000 cfs (1997)

Projected Record Flow (Date)

* 150,000 cfs (Mid June)

Gavins Point (In operation since 1955)

Midnight Elevation

* 1207.7 ft msl

* 24-hr Change (-0.1 ft)

Daily Avg. Inflow

* 145,000 cfs (11 Jun)

* 146,000 cfs (10 Jun)

Daily Avg. Release

* 146,100 cfs (11 Jun)

* 143,400 cfs (10 Jun)

Annual Flood Ctrl & Multi-Use Zone (Elevation)

* 1204.5 ft msl - 1210 ft msl

Exclusive Flood Ctrl Zone (Elevation)

* 1208 ft msl - 1210 ft msl

Top of Spillway Gates

* 1210 ft msl

Planned Scheduled Releases (Subject to Change)

* Releases will be stepped up to 150,000 cfs by mid June.

Record Pool Elevation (Year)

* 1209.7 msl (2010)

Record Flow (Date)

* 70,000 cfs (1997)

Projected Record Flow (Date)

* 150,000 cfs (Mid June)

Source of information: <http://www.nwd-mr.usace.army.mil/rcc>

Missouri River Mainstem 24-Hour Forecast Conditions (Updated 12 Jun; 0900 CDT)

24-hr forecast (Glasgow, MT)

Today: Slight chance of showers, then showers and t-storms likely after noon. Partly sunny, with a high near 72. East wind around 8 mph becoming south. Chance of precipitation is 60%.

Tonight: 40% chance of showers and t-storms before midnight. Mostly cloudy, with a low around 54. Southwest wind 4 to 7 mph becoming calm.

Monday: Sunny, with a high near 75. West southwest wind 5 to 14 mph, with gusts as high as 20 mph.

24-hr forecast (Williston, ND)

Today: Showers and t-storms likely after 1pm. Some storms could be severe. Partly sunny, with a high near 72. Southeast wind 10 to 14 mph. Chance of precipitation is 60%.

Tonight: Showers and t-storms likely, mainly before 1am. Mostly cloudy, with a low around 53. East wind 6 to 13 mph becoming southwest. Chance of precipitation is 70%. New rainfall amounts 0.50 to 0.75 inches possible.

Monday: 20% chance of showers and t-storms after 1pm. Mostly sunny, with a high near 76. West wind 7 to 16 mph, with gusts as high as 22 mph.

24-hr forecast (Riverdale, ND)

Today: 50% chance of showers and t-storms after 1pm. Mostly cloudy, with a high near 70. Southeast wind 15 to 18 mph, with gusts as high as 24 mph.

Tonight: Showers and t-storms. Some storms could be severe. Low around 58. South wind 11 to 18 mph, with gusts as high as 24 mph. Chance of precipitation is 80%. New rainfall amounts 0.50 to 0.75 inches possible.

Monday: 20% chance of showers and t-storms. Partly sunny, with a high near 77. South wind 9 to 15 mph becoming west. Winds could gust as high as 20 mph.

24-hr forecast (Washburn, ND)

Today: Slight chance of showers before 10am, then a chance of showers and t-storms after 1pm. Mostly cloudy, with a high near 69. South wind 16 to 20 mph, with gusts as high as 25 mph. Chance of precipitation is 50%.

Tonight: Showers and t-storms. Some storms could be severe. Low around 57. South wind 13 to 22 mph, with gusts as high as 29 mph. Chance of precipitation is 80%. New rainfall amounts 0.50 to 0.75 inches possible.

Monday: 20% chance of showers and t-storms. Partly sunny, with a high near 76. South wind 10 to 14 mph becoming west.

24-hr forecast (Bismarck/Mandan, ND)

Today: 50% chance of showers and t-storms after 1pm. Mostly cloudy, with a high near 70. Southeast wind 18 to 21 mph, with gusts as high as 28 mph.

Tonight: Showers and t-storms. Some storms could be severe. Low around 58. Southeast wind 20 to 23 mph decreasing to 11 to 14 mph. Winds could gust as high as 30 mph. Chance of precipitation is 80%. New rainfall amounts 0.50 to 0.75 inches possible.

Monday: 30% chance of showers and t-storms. Partly sunny, with a high near 77. Southeast wind 10 to 13 mph becoming west.

24-hr forecast (Pierre, SD)

Today: 30% chance of showers and t-storms, mainly after 4pm. Partly sunny, with a high near 77. Southeast wind 20 to 23 mph.

Tonight: Showers and t-storms likely, mainly between 7pm and 1am. Some storms could be severe. Mostly cloudy, with a low around 59. Southeast wind 21 to 24 mph decreasing to 11 to 14 mph. Winds could gust as high as 34 mph. Chance of precipitation is 60%.

Monday: 20% chance of showers and t-storms after 1pm. Partly sunny, with a high near 80. Southeast wind 6 to 8 mph becoming north northeast.

24-hr forecast (Ft. Pierre, SD)

Today: 30% chance of showers and t-storms, mainly after 4pm. Partly sunny, with a high near 78. Southeast wind 18 to 22 mph, with gusts as high as 31 mph.

Tonight: Showers and t-storms likely, mainly between 7pm and 1am. Some storms could be severe. Mostly cloudy, with a low around 59. Southeast wind 21 to 24 mph decreasing to 11 to 14 mph. Winds could gust as high as 34 mph. Chance of precipitation is 60%.

Monday: 20% chance of showers and t-storms after 1pm. Partly sunny, with a high near 81. Southeast wind around 7 mph becoming north northeast.

24-hr forecast (Lower Brule, SD)

Today: Isolated showers and t-storms. Partly sunny, with a high near 75. Southeast wind 21 to 23 mph, with gusts as high as 32 mph. Chance of precipitation is 20%.

Tonight: Showers and t-storms likely, mainly between 7pm and 1am. Mostly cloudy, with a low around 60. Southeast wind 21 to 24 mph decreasing to 13 to 16 mph. Winds could gust as high as 33 mph. Chance of precipitation is 60%.

Monday: 20% chance of showers and t-storms after 1pm. Partly sunny, with a high near 79. South wind at 11 mph becoming east northeast.

24-hr forecast (Chamberlain, SD)

Today: Slight chance of showers and t-storms after 1pm. Partly sunny, with a high near 74. Southeast wind 17 to 21 mph, with gusts as high as 30 mph. Chance of precipitation is 20%.

Tonight: Chance of showers and t-storms, mainly before 1am. Mostly cloudy, with a low around 61. Southeast wind around 16 mph. Chance of precipitation is 30%.

Monday: Slight chance of showers and t-storms. Partly sunny, with a high near 78. Southeast wind 6 to 11 mph. Chance of precipitation is 20%.

24-hr forecast (Yankton, SD)

Today: Isolated showers before 10am. Partly sunny, with a high near 72. East southeast wind 14 to 16 mph. Chance of precipitation is 20%.

Tonight: Scattered showers and t-storms after 1am. Mostly cloudy, with a low around 61. East southeast wind 9 to 14 mph. Chance of precipitation is 40%.

Monday: Chance of showers and t-storms. Mostly cloudy, with a high near 75. East southeast wind 7 to 14 mph. Chance of precipitation is 30%.

24-hr forecast (Sioux City, IA)

Today: Scattered showers before 10am. Partly sunny, with a high near 74. Southeast wind 11 to 18 mph, with gusts as high as 28 mph. Chance of precipitation is 40%.

Tonight: Scattered showers and t-storms after 1am. Mostly cloudy, with a low around 61. East southeast wind around 11 mph. Chance of precipitation is 50%.

Monday: Chance of showers and t-storms. Mostly cloudy, with a high near 74. East southeast wind 14 to 17 mph decreasing to 5 to 8 mph. Winds could gust as high as 26 mph. Chance of precipitation is 40%.

24-hr forecast (Omaha, NE)

Today: 40% chance of showers and t-storms, mainly before 1pm. Mostly cloudy, with a high near 75. Southeast wind 14 to 16 mph, with gusts as high as 24 mph. New rainfall amounts less than 0.10 inches, higher amounts possible in t-storms.

Tonight: 40% chance of showers and t-storms, mainly after 1am. Mostly cloudy, with a low around 64. Southeast wind around 15 mph, with gusts as high as 22 mph. New rainfall amounts 0.10 to 0.25 inches, higher amounts possible in t-storms.

Monday: 20% chance of showers and t-storms before 1pm. Partly sunny, with a high near 80. East southeast wind 11 to 14 mph, with gusts as high as 20 mph.

Source of information: <http://www.weather.gov/>

Internet: <http://www.nwo.usace.army.mil>

Facebook: <http://www.facebook.com/OmahaUSACE>

Twitter: <http://www.twitter.com/OmahaUSACE>
YouTube: <http://www.youtube.com/OmahaUSACE>
Flickr: <http://www.flickr.com/photos/omahausace>

Missouri River Flooding (Logistics) (Updated 11 Jun; 0900 CDT) Personnel Deployed

9 (Glasgow, MT)
3 (Garrison, ND)
4 (Bismarck, ND)
1 (Fort Yates, ND)
5 (Williston, ND)
5 (Pierre, SD)
1 (Kansas City, MO)
3 (Sioux City, IA)
4 (Dakota Dunes, SD)
4 (S. Sioux City, NE)
4 (Hamburg, IA)
5 (Missouri River Survey)
1 (Decatur, NE)
1 (Offutt, NE)
5 (North Platte, NE)
1 (Lincoln, NE)

Equipment Deployed

HESCO (3' and 4')
Issued: 51,270 LF
On Hand: 23,435 LF
Projected Outstanding Requirements: 39,000 LF

Sandbags

Issued: 14,251,000
On Hand: 4,803,500
Projected Outstanding Requirements: 6.5 M

Poly Rolls

Issued: 2,596 rolls
On Hand: 2,104 rolls
Projected Outstanding Requirements: 1,500 rolls

Pumps

Issued: 27 pumps
On Hand: 15
Projected Outstanding Requirements: 30 pumps

Additional Supplies due in:

MVK Pumps: 13 pumps
SWL Pumps: Locating 4-5 pumps
Slingbags: 300 - 2K lb heavy bags with slings Source of information: CMT Brief (11 Jun 11)

Classification: UNCLASSIFIED

Caveats: NONE



US Army Corps
of Engineers
Omaha District

Missouri River Mainstem Reservoir Bulletin (Updated 12 Jun; 0900 CDT)

Fort Peck (In operation since 1940)	Garrison (In operation since 1955)	Oahe (In operation since 1962)	Big Bend (In operation since 1964)	Fort Randall (In operation since 1953)	Gavins Point (In operation since 1955)
Midnight Elevation <ul style="list-style-type: none"> 2251.8 ft msl 24-hr Change (+0.2ft) Daily Avg. Inflow <ul style="list-style-type: none"> 91,000 cfs (11 Jun) 81,000 cfs (10 Jun) Daily Avg. Release <ul style="list-style-type: none"> 60,600 cfs (11 Jun) 58,900 cfs (10 Jun) Annual Flood Ctrl & Multi-Use Zone (Elevation) <ul style="list-style-type: none"> 2234 ft msl – 2246 ft msl Exclusive Flood Ctrl Zone (Elevation) <ul style="list-style-type: none"> 2246 ft msl – 2250 ft msl Top of Spillway Gates <ul style="list-style-type: none"> 2250 ft msl Planned Scheduled Releases (Subject to Change) <ul style="list-style-type: none"> Releases will be stepped up to 65,000 cfs. Reservoir will use several feet of surcharge storage above the exclusive flood control pool as spillway gates are raised. Record Pool Elevation (Year) <ul style="list-style-type: none"> 2251.6 msl (1975) Record Flow (Year) <ul style="list-style-type: none"> 35,000 cfs (1975) Projected Record Flow (Date) <ul style="list-style-type: none"> 65,000 cfs (Mid June) 	Midnight Elevation <ul style="list-style-type: none"> 1853.1 ft msl 24-hr Change (0.0 ft) Daily Avg. Inflow <ul style="list-style-type: none"> 129,000 cfs (11 Jun) 125,000 cfs (10 Jun) Daily Avg. Release <ul style="list-style-type: none"> 135,200 cfs (11 Jun) 133,500 cfs (10 Jun) Annual Flood Ctrl & Multi-Use Zone (Elevation) <ul style="list-style-type: none"> 1837.5 ft msl – 1850 ft msl Exclusive Flood Ctrl Zone (Elevation) <ul style="list-style-type: none"> 1850 ft msl – 1854 ft msl Top of Spillway Gates <ul style="list-style-type: none"> 1854 ft msl River Stage (Bismarck) <ul style="list-style-type: none"> 17.64 (0715 CDT 12 Jun) Flood stage – 16 ft 17.51 (0715 CDT 11 Jun) Planned Scheduled Releases (Subject to Change) <ul style="list-style-type: none"> Releases will be stepped up to 150,000 cfs by mid June. Spillway gates are being used to pass floodwaters. Record Pool Elevation (Year) <ul style="list-style-type: none"> 1854.8 msl (1975) Record Flow (Year) <ul style="list-style-type: none"> 65,000 cfs (1975) Projected Record Flow (Date) <ul style="list-style-type: none"> 150,000 cfs (Mid June) 	Midnight Elevation <ul style="list-style-type: none"> 1618.6 ft msl 24-hr Change (-0.2 ft) Daily Avg. Inflow <ul style="list-style-type: none"> 131,000 cfs (11 Jun) 132,000 cfs (10 Jun) Daily Avg. Release <ul style="list-style-type: none"> 150,400 cfs (11 Jun) 150,500 cfs (10 Jun) Annual Flood Ctrl & Multi-Use Zone (Elevation) <ul style="list-style-type: none"> 1607.5 ft msl – 1620 ft msl Exclusive Flood Ctrl Zone (Elevation) <ul style="list-style-type: none"> 1617 ft msl – 1620 ft msl Top of Spillway Gates <ul style="list-style-type: none"> 1620 ft msl River Stage (Pierre) <ul style="list-style-type: none"> 18.87 (0715 CDT 12 Jun) Flood stage – 15 ft 18.9 (0715 CDT 11 Jun) Planned Scheduled Releases (Subject to Change) <ul style="list-style-type: none"> Releases have been stepped up to 150,000 cfs. Reservoir will peak within a foot of the top of the spillway gates at 1619 feet. Record Pool Elevation (Year) <ul style="list-style-type: none"> 1618.7 msl (1995) Record Flow (Year) <ul style="list-style-type: none"> 59,000 cfs (1997) Projected Record Flow (Date) <ul style="list-style-type: none"> 150,000 cfs (Mid June) 	Midnight Elevation <ul style="list-style-type: none"> 1419.6 ft msl 24-hr Change (-0.1 ft) Daily Avg. Inflow <ul style="list-style-type: none"> 146,000 cfs (11 Jun) 148,000 cfs (10 Jun) Daily Avg. Release <ul style="list-style-type: none"> 146,900 cfs (11 Jun) 147,000 cfs (10 Jun) Annual Flood Ctrl & Multi-Use Zone (Elevation) <ul style="list-style-type: none"> 1420 ft msl – 1423 ft msl Exclusive Flood Ctrl Zone (Elevation) <ul style="list-style-type: none"> 1422 ft msl – 1423 ft msl Top of Spillway Gates <ul style="list-style-type: none"> 1423 ft msl Planned Scheduled Releases (Subject to Change) <ul style="list-style-type: none"> Releases will be stepped up to 150,000 cfs by mid June. Reservoir will remain essentially level at 1420 feet. Record Pool Elevation (Year) <ul style="list-style-type: none"> 1422.1 msl (1991) Record Flow (Date) <ul style="list-style-type: none"> 74,000 cfs (1997) Projected Record Flow (Date) <ul style="list-style-type: none"> 150,000 cfs (Mid June) 	Midnight Elevation <ul style="list-style-type: none"> 1362.2 ft msl 24-hr Change (+0.2 ft) Daily Avg. Inflow <ul style="list-style-type: none"> 149,000 cfs (11 Jun) 156,000 cfs (10 Jun) Daily Avg. Release <ul style="list-style-type: none"> 137,500 cfs (11 Jun) 136,900 cfs (10 Jun) Annual Flood Ctrl & Multi-Use Zone (Elevation) <ul style="list-style-type: none"> 1350 ft msl – 1375 ft msl Exclusive Flood Ctrl Zone (Elevation) <ul style="list-style-type: none"> 1365 ft msl – 1375 ft msl Top of Spillway Gates <ul style="list-style-type: none"> 1375 ft msl Planned Scheduled Releases (Subject to Change) <ul style="list-style-type: none"> Releases will be stepped up to 150,000 cfs by mid June. Record Pool Elevation (Year) <ul style="list-style-type: none"> 1372.2 msl (1997) Record Flow (Date) <ul style="list-style-type: none"> 67,000 cfs (1997) Projected Record Flow (Date) <ul style="list-style-type: none"> 150,000 cfs (Mid June) 	Midnight Elevation <ul style="list-style-type: none"> 1207.7 ft msl 24-hr Change (-0.1 ft) Daily Avg. Inflow <ul style="list-style-type: none"> 145,000 cfs (11 Jun) 146,000 cfs (10 Jun) Daily Avg. Release <ul style="list-style-type: none"> 146,100 cfs (11 Jun) 143,400 cfs (10 Jun) Annual Flood Ctrl & Multi-Use Zone (Elevation) <ul style="list-style-type: none"> 1204.5 ft msl – 1210 ft msl Exclusive Flood Ctrl Zone (Elevation) <ul style="list-style-type: none"> 1208 ft msl – 1210 ft msl Top of Spillway Gates <ul style="list-style-type: none"> 1210 ft msl Planned Scheduled Releases (Subject to Change) <ul style="list-style-type: none"> Releases will be stepped up to 150,000 cfs by mid June. Record Pool Elevation (Year) <ul style="list-style-type: none"> 1209.7 msl (2010) Record Flow (Date) <ul style="list-style-type: none"> 70,000 cfs (1997) Projected Record Flow (Date) <ul style="list-style-type: none"> 150,000 cfs (Mid June)

Source of information: <http://www.nwd-mr.usace.army.mil/rcc>



US Army Corps
of Engineers
Omaha District

Missouri River Mainstem 24-Hour Forecast Conditions (Updated 12 Jun; 0900 CDT)

Fort Peck	Garrison	Oahe	Big Bend	Fort Randall	Gavins Point
24-hr forecast (Glasgow, MT) Today: Slight chance of showers, then showers and t-storms likely after noon. Partly sunny, with a high near 72. East wind around 8 mph becoming south. Chance of precipitation is 60%. Tonight: 40% chance of showers and t-storms before midnight. Mostly cloudy, with a low around 54. Southwest wind 4 to 7 mph becoming calm. Monday: Sunny, with a high near 75. West southwest wind 5 to 14 mph, with gusts as high as 20 mph. 24-hr forecast (Williston, ND) Today: Showers and t-storms likely after 1pm. Some storms could be severe. Partly sunny, with a high near 72. Southeast wind 10 to 14 mph. Chance of precipitation is 60%. Tonight: Showers and t-storms likely, mainly before 1am. Mostly cloudy, with a low around 53. East wind 6 to 13 mph becoming southwest. Chance of precipitation is 70%. New rainfall amounts 0.50 to 0.75 inches possible. Monday: 20% chance of showers and t-storms after 1pm. Mostly sunny, with a high near 76. West wind 7 to 16 mph, with gusts as high as 22 mph.	24-hr forecast (Riverdale, ND) Today: 50% chance of showers and t-storms after 1pm. Mostly cloudy, with a high near 70. Southeast wind 15 to 18 mph, with gusts as high as 24 mph. Tonight: Showers and t-storms. Some storms could be severe. Low around 58. South wind 11 to 18 mph, with gusts as high as 24 mph. Chance of precipitation is 80%. New rainfall amounts 0.50 to 0.75 inches possible. Monday: 20% chance of showers and t-storms. Partly sunny, with a high near 77. South wind 9 to 15 mph becoming west. Winds could gust as high as 20 mph. 24-hr forecast (Washburn, ND) Today: Slight chance of showers before 10am, then a chance of showers and t-storms after 1pm. Mostly cloudy, with a high near 69. South wind 16 to 20 mph, with gusts as high as 25 mph. Chance of precipitation is 50%. Tonight: Showers and t-storms. Some storms could be severe. Low around 57. South wind 13 to 22 mph, with gusts as high as 29 mph. Chance of precipitation is 80%. New rainfall amounts 0.50 to 0.75 inches possible. Monday: 20% chance of showers and t-storms. Partly sunny, with a high near 76. South wind 10 to 14 mph becoming west.	24-hr forecast (Pierre, SD) Today: 30% chance of showers and t-storms, mainly after 4pm. Partly sunny, with a high near 77. Southeast wind 20 to 23 mph. Tonight: Showers and t-storms likely, mainly between 7pm and 1am. Some storms could be severe. Mostly cloudy, with a low around 59. Southeast wind 21 to 24 mph decreasing to 11 to 14 mph. Winds could gust as high as 34 mph. Chance of precipitation is 60%. Monday: 20% chance of showers and t-storms after 1pm. Partly sunny, with a high near 80. Southeast wind 6 to 8 mph becoming north northeast. 24-hr forecast (Ft. Pierre, SD) Today: 30% chance of showers and t-storms, mainly after 4pm. Partly sunny, with a high near 78. Southeast wind 18 to 22 mph, with gusts as high as 31 mph. Tonight: Showers and t-storms likely, mainly between 7pm and 1am. Some storms could be severe. Mostly cloudy, with a low around 59. Southeast wind 21 to 24 mph decreasing to 11 to 14 mph. Winds could gust as high as 34 mph. Chance of precipitation is 60%. Monday: 20% chance of showers and t-storms after 1pm. Partly sunny, with a high near 81. Southeast wind around 7 mph becoming north northeast.	24-hr forecast (Lower Brule, SD) Today: Isolated showers and t-storms. Partly sunny, with a high near 75. Southeast wind 21 to 23 mph, with gusts as high as 32 mph. Chance of precipitation is 20%. Tonight: Showers and t-storms likely, mainly between 7pm and 1am. Mostly cloudy, with a low around 60. Southeast wind 21 to 24 mph decreasing to 13 to 16 mph. Winds could gust as high as 33 mph. Chance of precipitation is 60%. Monday: 20% chance of showers and t-storms after 1pm. Partly sunny, with a high near 79. South wind at 11 mph becoming east northeast.	24-hr forecast (Chamberlain, SD) Today: Slight chance of showers and t-storms after 1pm. Partly sunny, with a high near 74. Southeast wind 17 to 21 mph, with gusts as high as 30 mph. Chance of precipitation is 20%. Tonight: Chance of showers and t-storms, mainly before 1am. Mostly cloudy, with a low around 61. Southeast wind around 16 mph. Chance of precipitation is 30%. Monday: Slight chance of showers and t-storms. Partly sunny, with a high near 78. Southeast wind 6 to 11 mph. Chance of precipitation is 20%. 24-hr forecast (Sioux City, IA) Today: Scattered showers before 10am. Partly sunny, with a high near 74. Southeast wind 11 to 18 mph, with gusts as high as 28 mph. Chance of precipitation is 40%. Tonight: Scattered showers and t-storms after 1am. Mostly cloudy, with a low around 61. East southeast wind around 11 mph. Chance of precipitation is 50%. Monday: Chance of showers and t-storms. Mostly cloudy, with a high near 74. East southeast wind 14 to 17 mph decreasing to 5 to 8 mph. Winds could gust as high as 26 mph. Chance of precipitation is 40%.	24-hr forecast (Yankton, SD) Today: Isolated showers before 10am. Partly sunny, with a high near 72. East southeast wind 14 to 16 mph. Chance of precipitation is 20%. Tonight: Scattered showers and t-storms after 1am. Mostly cloudy, with a low around 61. East southeast wind 9 to 14 mph. Chance of precipitation is 40%. Monday: Chance of showers and t-storms. Mostly cloudy, with a high near 75. East southeast wind 7 to 14 mph. Chance of precipitation is 30%.

Source of information: <http://www.weather.gov>



Missouri River Mainstem 24-Hour Forecast Conditions (Updated 12 Jun; 0900 CDT)

Fort Peck	Garrison	Osage	Big Bend	Fort Randall	Gavins Point
24-hr forecast (Bismarck/Mandan, ND) Today: 50% chance of showers and t-storms after 1pm. Mostly cloudy, with a high near 70. Southeast wind 18 to 21 mph, with gusts as high as 28 mph. Tonight: Showers and t-storms. Some storms could be severe. Low around 58. Southeast wind 20 to 23 mph decreasing to 11 to 14 mph. Winds could gust as high as 30 mph. Chance of precipitation is 80%. New rainfall amounts 0.50 to 0.75 inches possible. Monday: 30% chance of showers and t-storms. Partly sunny, with a high near 77. Southeast wind 10 to 13 mph becoming west.					24-hr forecast (Omaha, NE) Today: 40% chance of showers and t-storms, mainly before 1pm. Mostly cloudy, with a high near 75. Southeast wind 14 to 16 mph, with gusts as high as 24 mph. New rainfall amounts less than 0.10 inches, higher amounts possible in t-storms. Tonight: 40% chance of showers and t-storms, mainly after 1am. Mostly cloudy, with a low around 64. Southeast wind around 15 mph, with gusts as high as 22 mph. New rainfall amounts 0.10 to 0.25 inches, higher amounts possible in t-storms. Monday: 20% chance of showers and t-storms before 1pm. Partly sunny, with a high near 80. East southeast wind 11 to 14 mph, with gusts as high as 20 mph.

Source of information: <http://www.weather.gov/>

Internet: <http://www.nwo.usace.army.mil>

Facebook: <http://www.facebook.com/OmahaUSACE>

Twitter: <http://www.twitter.com/OmahaUSACE>

YouTube: <http://www.youtube.com/OmahaUSACE>

Flickr: <http://www.flickr.com/photos/omahausace>



Missouri River Flooding (Logistics) (Updated 11 Jun; 0900 CDT)

Personnel Deployed		
9 (Glasgow, MT) 3 (Garrison, ND) 4 (Bismarck, ND) 1 (Fort Yates, ND) 5 (Williston, ND) 5 (Pierre, SD)	1 (Kansas City, MO) 3 (Sioux City, IA) 4 (Dakota Dunes, SD) 4 (S. Sioux City, NE) 4 (Hamburg, IA)	5 (Missouri River Survey) 1 (Decatur, NE) 1 (Offutt, NE) 5 (North Platte, NE) 1 (Lincoln, NE)

Equipment Deployed		Additional Supplies due in:
HESCO (3' and 4') Issued: 51,270 LF On Hand: 23,435 LF Projected Outstanding Requirements: 39,000 LF		MVK Pumps: 13 pumps SWL Pumps: Locating 4-5 pumps Slingbags: 300 - 2K lb heavy bags with slings
Sandbags Issued: 14,251,000 On Hand: 4,803,500 Projected Outstanding Requirements: 6.5 M		
Poly Rolls Issued: 2,596 rolls On Hand: 2,104 rolls Projected Outstanding Requirements: 1,500 rolls		
Pumps Issued: 27 pumps On Hand: 15 Projected Outstanding Requirements: 30 pumps		

NWO

From: [REDACTED]
Sent: Sunday, June 12, 2011 9:10 AM
To: [REDACTED]
Cc: [REDACTED]; Farhat, Jody S NWD02;
[REDACTED]
Subject: Garrison Staff Notes (UNCLASSIFIED)
Attachments: 6-12 Garrison Flood Fight Daily Staff Notes.docx; Main Stem Regulation Forecast - Three-Week 6-11-11.mht; FACT SHEET June 12 2011.docx

Classification: UNCLASSIFIED
Caveats: FOUO

All,
I've attached today's Garrison Flood Fight Staff notes, and the Fact Sheet. I will also begin attaching the current three week forecast so folks can track our anticipated release changes and reservoir elevations. However, I must caution not to put too much stock in the numbers beyond a few days out. The forecast provides a current snapshot, but the forecast is being changed daily based on actual inflows, precipitations events and constantly changing data. It's useful but it will change!

[REDACTED]
Operations Project Manager
Garrison Project

Classification: UNCLASSIFIED
Caveats: FOUO

**Garrison Flood Fight
Daily Staff Notes
Sunday, June 12, 2011**

Forecast/Flows/River Monitoring:

- Lake Sakakawea:
 - Current Reservoir Elevation: 1853.05. Yesterday's elevation: 1853.10
 - Current Tail water Elevation 1683.51. Yesterday's elevation 1683.65
 - Stilling Basin (a.k.a. Spillway Pond) elevation: 1688.5 (not verified yet today...)
 - Estimated Inflows 129,000 cfs, Releases: 135,000 cfs
 - Release Schedule: Remain at 135,000 cfs Sunday. Increase to 140,000 cfs on Monday. Goal remains at 150,000 cfs by June 17th.
 - Spillway gates #'s 1-7 and 21-28 are open one foot. Gate #'s 8-20 are open approximately 2 feet.
 - Current release distribution: Power Plant - 15,000 cfs, Regulating Tunnels - 75,500 cfs, Spillway - 44,500 cfs.
- Fort Peck releases going to 65,000 cfs today and scheduled to remain at that level for 8 days before going back down to 60,000 cfs.
- Missouri River Elevations:
 - Bismarck gage: Currently 17.65 feet, Protection measures in Bismarck were to 21.6 feet with a forecasted crest of 20.6 feet.
 - Williston gage: Currently 29.0 feet, forecasted to go to 29.9 feet by Tuesday morning. Previous record stage: 28.0 feet.
- Current Snowpack:
 - Ft Peck - crested at 136% of normal peak; currently 96% of the normal peak remains.
 - Garrison - crested at 141% of peak; currently 113% of the normal peak remains.

Garrison Dam Surveillance:

- Surveillance (Team Leader, [REDACTED])
 - Need to monitor upstream crest road. Cracks in pavement appear to be opening slightly. Monitor area from Station 76 to 91.
 - Flagged wet areas on East abutment to track seepage.
 - Rock repairs to tailrace appear to be holding, we'll continue to monitor both banks.
- Instrumentation (Team Leader [REDACTED])
 - Instrumentation readings going well, no noted issues.

Snake Creek Embankment/ Lake Audubon:

- Surveillance:
 - No major issues reported. Will inspect Snake Creek today.
- Lake Audubon has been filled to elevation 1849.5 to utilize additional storage. Currently we do not plan to increase that elevation.

Williston Levee:

- POC's [REDACTED]
- [REDACTED] is rotating out. He did a great job for us! Thanks [REDACTED]
- The boils at Williston are still flowing clear water. Additional small pin boils have been located, and seepage areas continue to appear, but nothing of concern at this time.
- Contract to improve the toe road, was awarded late yesterday. Notice to Proceed was issued.
- [REDACTED] is pursuing installation of oil coolers for the hydraulic fluid on the new pumps.

Natural Resources:

- POC's [REDACTED] (701) 231-2311, [REDACTED] (701) 400-0894
- Visitation was "nuts" yesterday. Parking area was filled so people were parking on the grass. [REDACTED] is working another law enforcement contract with Mercer County. I visited with Sheriff Dean and John Tunge yesterday. Both are willing to assist as they can.
- Natural Resource personnel are doing an outstanding job of providing visitor assistance and interacting with the public!

Outside Maintenance:

- Pumped standing water from spillway pond recreation area yesterday.
- Will begin working on some grading and backfilling to address drainage issues at both sides of the spillway.
- Everyone needs to monitor the temporary water line installed across the spillway bridge and down the East side of the dam. Any signs of leakage in this line must be reported immediately. Notify your supervisor, Chuck Phelps, or I. Also notify City of Riverdale, "Clay" at (701) 471-6433 or Charles Sorensen ext. 232, or [REDACTED]. There are shutoff valves located on the line. A drawing showing the locations of these valves is posted in the Outside Maintenance shop. A valve key to close the valves is located immediately inside the front door of the maintenance building.

Power Plant:

- [REDACTED] working on devising a plan to allow operating the regulating tunnel gates remotely, from the control room.
- Still having some issues with the camera to monitor the spillway.
- WAPA has requested that we reduce power generation over the weekend. We are currently running two units and making the releases up via the spillway and regulating tunnels.

Weather/Safety:

Today for Riverdale: Partly cloudy with a slight chance of thunderstorms. A few storms may be severe. High 68F. Winds SE at 15 to 25 mph. Chance of rain 30%.	Tonight for Riverdale: Thunderstorms. A few storms may be severe. Low 58F. Winds SSE at 10 to 20 mph. Chance of rain 80%.	Tomorrow: Isolated thunderstorms in the morning, then partly cloudy late. High 76F. Winds WSW at 10 to 15 mph. Chance of rain 30%.
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- [REDACTED] and [REDACTED] have volunteered to work on evacuation plans. I will coordinate with them as soon as I get a chance.

Needed Resources:

- Maps for location of emergency stockpiles, as well as improving access roads will be provided to Omaha today.
- NR's to coordinate an inventory and review of life jackets on hand. A new order will be placed to replace worn out life jackets and to acquire some additional larger sizes.
- Fuel is to be delivered tomorrow. It was "Settler Days" in Center so delivery was not available over the weekend.
- Looking into upgrading our radios so that we can utilize them effectively for local communication. Cell phone coverage is spotty in several locations.

Any resource needs, safety issues, or emergencies should be directed to your team leaders/POC immediately. If they cannot be reached contact [REDACTED]

OPM Notes:

- We have a double lock on the East diagonal road so the hatchery folks have access. Someone removed that lock yesterday. This double lock needs to be kept in place!
- Take your time and know where you are driving. Use spotters when needed...
- Flood team meetings every morning at 0700 hours in the Outside Maintenance Building.

This regulation forecast was made using computed reservoir inflows based on 5-days of forecast precipitation and mountain snowmelt runoff. The regulation forecast is subject to change daily as actual events occur.

* Indicates release changes from previous forecast

REGULATION FORECAST																				06/11/11							
FTPK								GARR				OAHE				BEND				TTRA							
	24EL	24ID	24OD	24GE	24EL	24ID	24OD	24GE	24EL	24ID	24OD	24GE	24EL	24ID	24OD	24GE	24EL	24ID	24OD	24GE							
11	2251.7	85.0	60.0	5.12	1853.0	127.4	135.0	9.22	1618.7	140.1	150.0	13.90	1419.7	150.0	150.0	8.71	1362.3	154.6	137.0	8							
12	2251.9	85.0	65.0*	5.13	1853.1	141.9	135.0	9.23	1618.6	142.1	150.0	13.89	1419.7	150.0	150.0	8.66	1362.7	153.9	140.0	9							
13	M	2252.0	80.0	65.0*	5.13	1853.2	156.3	140.0	9.23	1618.6	141.9	150.0	13.89	1419.7	150.0	150.0	8.64	1362.8	153.2	145.0	9						
14	T	2252.1	75.0	65.0*	5.13	1853.3	167.5	140.0	9.24	1618.5	144.6	150.0	13.89	1419.7	150.0	150.0	8.62	1362.9	152.4	147.0	9						
15	W	2252.1	70.0	65.0*	5.13	1853.4	166.1	140.0	9.24	1618.5	146.8	150.0	13.89	1419.7	150.0	150.0	8.60	1363.0	152.4	148.0	9						
16	T	2252.1	65.0	65.0*	5.13	1853.5	160.4	145.0	9.25	1618.5	147.0	150.0	13.88	1419.7	150.0	150.0	8.59	1363.1	152.4	148.0	9						
17	F	2252.1	62.0	65.0*	5.13	1853.6	159.0	150.0	9.25	1618.5	151.6	150.0	13.89	1419.7	150.0	150.0	8.58	1363.2	152.4	148.0	9						
18		2252.0	59.0	65.0*	5.13	1853.6	161.0	150.0	9.25	1618.6	158.4	150.0	13.89	1419.7	150.0	150.0	8.56	1363.3	152.4	148.0	9						
19		2251.9	56.0	65.0*	5.13	1853.7	160.0	150.0	9.26	1618.6	158.8	150.0	13.89	1419.7	150.0	150.0	8.55	1363.4	152.4	148.0	9						
20	M	2251.9	53.0	60.0	5.13	1853.7	157.0	150.0	9.26	1618.6	157.0	150.0	13.89	1419.7	150.0	150.0	8.53	1363.5	152.4	148.0	9						
21	T	2251.8	51.0	60.0	5.13	1853.7	154.8	150.0	9.26	1618.7	159.0	150.0	13.90	1419.7	150.0	150.0	8.52	1363.6	152.4	148.0	9						
22	W	2251.7	49.0	60.0	5.12	1853.7	154.6	150.0	9.26	1618.7	158.0	150.0	13.90	1419.7	150.0	150.0	8.50	1363.7	152.4	148.0	9						
23	T	2251.6	47.0	60.0	5.12	1853.7	149.8	150.0	9.26	1618.8	157.0	150.0	13.90	1419.7	150.0	150.0	8.49	1363.8	152.4	148.0	9						
24	F	2251.5	46.0	60.0	5.12	1853.7	141.6	150.0	9.26	1618.8	157.0	150.0	13.91	1419.7	150.0	150.0	8.48	1363.9	152.4	148.0	9						
25		2251.5	60.0	60.0	5.12	1853.7	143.0	150.0	9.26	1618.8	156.5	150.0	13.91	1419.7	150.0	150.0	8.46	1364.0	152.2	148.0	9						
26		2251.6	68.0	60.0	5.12	1853.7	157.0	150.0	9.26	1618.8	156.0	150.0	13.91	1419.7	150.0	150.0	8.45	1364.0	152.0	148.0	9						
27	M	2251.6	70.0	60.0	5.12	1853.7	162.0	150.0	9.26	1618.9	155.0	150.0	13.91	1419.7	150.0	150.0	8.44	1364.1	151.9	148.0	9						
28	T	2251.7	71.0	60.0	5.12	1853.8	167.0	150.0	9.27	1618.9	154.5	150.0	13.91	1419.7	150.0	150.0	8.42	1364.2	151.7	148.0	9						
29	W	2251.8	74.0	60.0	5.13	1853.9	171.0	150.0	9.27	1618.9	154.0	150.0	13.91	1419.7	150.0	150.0	8.41	1364.3	151.5	148.0	9						
30	T	2251.9	74.0	60.0	5.13	1854.1	177.0	150.0	9.28	1618.9	153.5	150.0	13.92	1419.7	150.0	150.0	8.40	1364.3	151.4	148.0	9						
1	F	2252.0	74.0	60.0	5.13	1854.2	175.0	150.0	9.28	1618.9	153.0	150.0	13.92	1419.7	150.0	150.0	8.39	1364.4	151.2	148.0	9						
2		2252.1	73.0	60.0	5.13	1854.3	173.0	150.0	9.29	1618.9	152.0	150.0	13.92	1419.7	150.0	150.0	8.38	1364.5	151.0	148.0	9						
3		2252.2	67.0	60.0	5.13	1854.4	172.0	150.0	9.29	1618.9	151.5	150.0	13.92	1419.7	150.0	150.0	8.37	1364.5	150.9	148.0	9						
4	M	2252.2	64.0	60.0	5.14	1854.5	171.0	150.0	9.30	1618.9	151.5	150.0	13.92	1419.7	150.0	150.0	8.36	1364.6	150.7	148.0	9						
5	T	2252.2	59.0	60.0	5.13	1854.6	170.0	150.0	9.31	1618.9	151.5	150.0	13.92	1419.7	150.0	150.0	8.36	1364.7	150.5	148.0	9						
6	W	2252.1	54.0	60.0	5.13	1854.7	169.0	150.0	9.31	1618.9	151.5	150.0	13.92	1419.7	150.0	150.0	8.35	1364.7	150.4	148.0	9						
7	T	2252.0	50.0	60.0	5.13	1854.8	166.0	150.0	9.31	1618.9	151.5	150.0	13.92	1419.7	150.0	150.0	8.34	1364.7	150.2	148.0	9						
8	F	2251.9	49.0	60.0	5.13	1854.8	164.0	150.0	9.32	1618.9	151.5	150.0	13.92	1419.7	150.0	150.0	8.33	1364.8	150.2	148.0	9						
9		2251.8	49.0	60.0	5.13	1854.9	162.0	150.0	9.32	1618.9	151.5	150.0	13.92	1419.7	150.0	150.0	8.33	1364.8	150.2	148.0	9						
10		2251.7	48.0	60.0	5.12	1854.9	160.0	150.0	9.32	1618.9	151.5	150.0	13.92	1419.7	150.0	150.0	8.32	1364.9	150.2	148.0	9						
11	M	2251.6	47.0	60.0	5.12	1855.0	158.0	150.0	9.32	1618.9	151.5	150.0	13.92	1419.7	150.0	150.0	8.31	1364.9	150.2	148.0	9						
12	T	2251.5	46.0	60.0	5.12	1855.0	156.0	150.0	9.32	1618.9	151.5	150.0	13.92	1419.7	150.0	150.0	8.31	1365.0	150.2	148.0	9						
13	W	2251.4	45.0	60.0	5.12	1855.0	154.0	150.0	9.32	1618.9	151.5	150.0	13.92	1419.7	150.0	150.0	8.30	1365.0	150.2	148.0	9						
14	T	2251.2	44.0	60.0	5.11	1855.0	152.0	150.0	9.32	1618.9	151.5	150.0	13.92	1419.7	150.0	150.0	8.29	1365.1	150.2	148.0	9						
15	F	2251.1	38.0	60.0	5.11	1855.0	150.0	150.0	9.32	1618.9	151.5	150.0	13.92	1419.7	150.0	150.0	8.28	1365.1	150.2	148.0	9						

Project:

24EL Midnight Elevation (feet above mean sea level)
 24ID Daily Average Inflow (kcfs)
 24OD Daily Average Release (kcfs)
 24GE Daily Power Generation (MWh)

System:

GE Daily Power Generation (MWh)
 SG Midnight Storage (AF)
 DSG Daily Storage Change (AF)

Units:

kcfs thousand cubic feet per second
 MWh megawatt hour
 AF acre-feet

Pagemaster: Water Management; CENWD-PDR;

Internet E-Mail Address: Missouri.Water.Management@nwd02.usace.army.mil

GARRISON PROJECT FACT SHEET

June 12, 2011

Lake Sakakawea Current Elevation: 1853.1 msl

Tailrace: 1683.6 msl

Audubon: 1849.3 msl

Inflows/Outflows:

Inflows: 133,500 cfs (cubic feet per second)

Combined Outflows: 135,000 cfs

Powerhouse: 16,000 cfs

Regulatory Tunnels: 75,500 cfs

Spillway: 44,500 cfs

How are the inflows and outflows measured?

1. Inflows: Previous day's inflows are calculated by utilizing the elevation of the reservoir at midnight and comparing it to the previous day's midnight elevation. We then know the change in storage volume based on these two elevations. From that volume, we subtract the outflows to determine the previous day's inflows.
2. Outflows: Flows through the penstocks (power plant generating units) are measured using ultrasonic flow transducers.
3. Outflows: Flows through the regulating tunnels and the Spillway are calculated values derived from discharge rating curves for the type and size of gates at each structure. Based on the height each gate is raised, the rating curve provides the volume of discharge. The discharge rating curves were developed by our Waterways Experimentation Station.

How long does it take the inflows to reach the dam? Approximately two days.

Time for water to reach Bismarck: Normal travel time for the leading edge of the water to reach the Interstate Bridge at Bismarck is approximately 30 hours. However, due to the high releases, the velocities of the river are increasing and travel time can be reduced by as much as 30 percent, which would mean the water could reach the interstate bridge in as little as 20 hours.

Regulating Tunnels: (3)

cfs capacity for each tunnel? At pool elevation 1853.0 msl: Tunnel 6 – 34,290 cfs; Tunnels 7 & 8 - 28,950 cfs (each)

Generators: (5)

cfs capacity for each generator? The plant currently has four units in service. At the current conditions (i.e. reservoir elevations), each unit has the capability of releasing approximately 7,800 cfs and generating 100 MW of power.

Spillway Gates: (28)

Gates are 29 feet high and 40 feet wide.

Maximum combined discharge capacity – 827,000 cfs at elevation 1858.5.

Each gate has a discharge capacity of a little over 1,000 cfs if opened 1 foot.

How high can the gates be opened? Each gate can be opened to 29.5 feet.

How exactly do the gates open? A gate hoist located above each of the gates is used to raise and lower the gates.

What is the long rectangular structure that is below the catwalk and above the spillway gates on the north side and why does the first gate on the west side not have one? The rectangular structures that are located above some of the gates are stop logs that can be stacked on top of each other to form a bulkhead in front of a Spillway gate so the gate can be inspected, serviced, and exercised without releasing water from the lake. There are a total of 18 stop logs at the spillway. One bulkhead to service a gate requires 9 stop logs.

Note: A "bulkhead" is simply another gate composed of metal pieces (the stop logs) stacked on top of each other to block the water.

Spillway:

Total length – 3200 feet

What is the depth from the Spillway apron to the stilling basin? The difference in elevation from the Spillway Apron (1789.55 msl) to the Stilling Basin (1687.9 msl) is approximately 100 feet.

How exactly does the stilling basin work? The Stilling Basin is a pool of water with concrete baffles 8' X 8' X 10' that are used to dissipate the energy of the water before passing through the channel to the river. I'll try and draw a sketch or find a drawing which shows the baffles...

How deep is the water on the spillway apron when it is released? The depth of the water on the spillway apron depends on the amount of water being released. Currently the water depth on the apron is approximately 1-2 feet deep.

What is the depth of water on the north side of the Spillway? The depth of the water on the north side of the Spillway is approximately 35 -40 feet.

Pilot Channel:

How deep is the pilot channel? Good Question???? I could not find this in the design drawings, but would estimate that it was originally an earthen ditch approximately 10 foot deep. It was designed to guide the initial flow of water from the spillway and allow the flow to cut a new channel. The channel is still eroding and will likely be 15 to 20 feet deep, with deeper holes where softer material was scoured. Ultimately the water flows, their duration and makeup of the soil in the area will determine the final depth of the pilot channel.

Misc Questions:

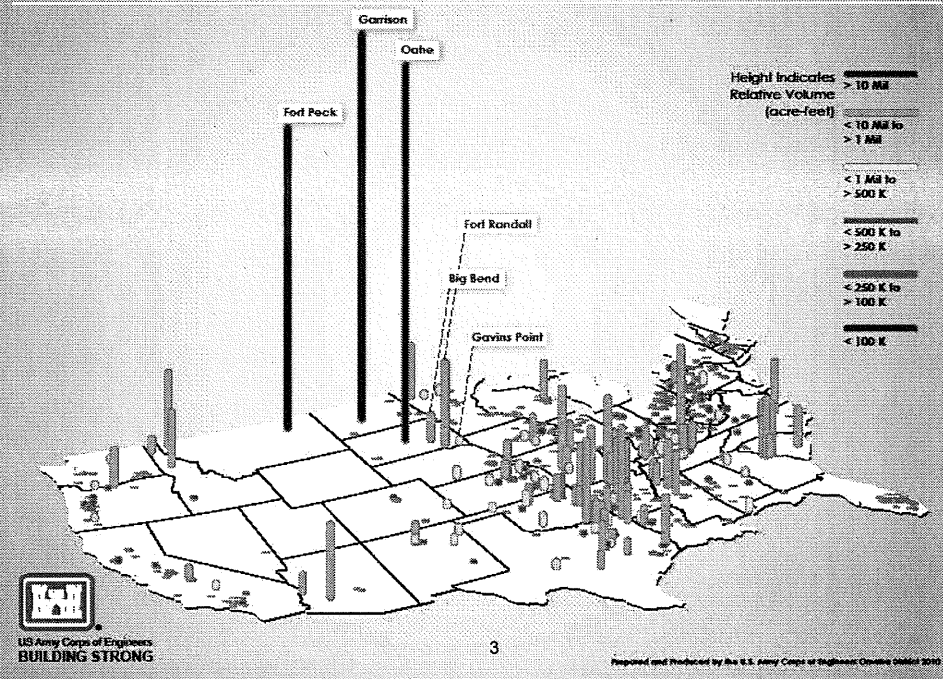
Type of rock that is used for riprap. Most of the riprap used at the Garrison Project is mined Quartzite

Depth of Tailrace? Varies depending on location. At the plant, the depth is approximately 55'.

Garrison Project Facts:

- Top of Spillway Gates is elevation 1854 msl.
- Top of Dam is elevation 1875 msl.
- Record Pool Elevation 1854.8 msl in 1975
- Garrison Project Operating Zones/Elevations:
 - Exclusive flood control zone: 1854-1850 1,489,000 acre-feet
 - Annual flood control/multiple purpose zone: 1850-1837.5 4,222,000 acre-feet
 - Carryover/multiple use zone: 1837.5-1775 13,130,000 acre-feet
 - Permanent Pool: 1775-1673 4,980,000 acre-feet
 - Gross Storage: 1854-1673 23,821,000 acre-feet
- Previous Record Releases from the six main stem dams on the Missouri River
 - Fort Peck 35,000 cfs in 1975
 - Garrison 65,000 cfs in 1975
 - Oahe 59,000 cfs in 1997
 - Big Bend 74,000 cfs in 1997
 - Fort Randall 67,000 cfs in 1997
 - Gavin's Point 70,000 cfs in 1997

Storage Capacity of Corps Reservoirs



NWO

From: [REDACTED]
Sent: Sunday, June 12, 2011 8:30 AM
To: [REDACTED] GENVO-EOO NWO, William S. Green L NWO, Pinault, Paul M. MVP, Salak, Jennifer NWO
Cc: [REDACTED] Robert NWO, Flanagan, Alexander J NWO, Bergman, Kelle K NWO, Farhat, Jody S
Subject: Mainstem data for NWO sitrep 6/12/11 (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Notes for data below: pool elevation is the midnight value; average inflows and average releases are average daily values; scheduled releases are the release from the project at the end of the day per yesterday's project orders.

Fort Peck Dam (MT)

6/11 Pool Elev: 2251.8 ft-msl
24-hr change: 0.2'
6/11 Ave Inflow: 91,000 cfs
6/11 Ave Release: 60,600 cfs
6/12 Scheduled Release: 65,000 cfs

Garrison Dam (ND)

6/11 Pool Elev: 1853.1 ft-msl
24-hr change: 0.0'
6/11 Ave Inflow: 129,000 cfs
6/11 Ave Release: 135,200 cfs
6/12 Scheduled Release: 135,000 cfs

Oahe Dam (SD)

6/11 Pool Elev: 1618.6 ft-msl
24-hr change: -0.2'
6/11 Ave Inflow: 131,000 cfs
6/11 Ave Release: 150,400 cfs
6/12 Scheduled Release: 150,000 cfs

Big Bend Dam (SD)

6/11 Pool Elev: 1419.6 ft-msl

24-hr change: -0.1'

6/11 Ave Inflow: 146,000 cfs

6/11 Ave Release: 146,900 cfs

6/12 Scheduled Release: 150,000 cfs

Fort Randall Dam (SD)

6/11 Pool Elev: 1362.2 ft-msl

24-hr change: 0.2'

6/11 Ave Inflow: 149,000 cfs

6/11 Ave Release: 137,500 cfs

6/12 Scheduled Release: 140,000 cfs

Gavins Point Dam (NE-SD)

6/11 Pool Elev: 1207.7 ft-msl

24-hr change: -0.1'

6/11 Ave Inflow: 145,000 cfs

6/11 Ave Release: 146,100 cfs

6/12 Scheduled Release: 145,000 cfs

Classification: UNCLASSIFIED

Caveats: NONE

[REDACTED] NWO

From: [REDACTED]
Sent: Sunday, June 12, 2011 8:30 AM
To: Farhat, Jody S NWD02
Subject: RE: No longer accessible Corps web page? (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Jody:

Does this have anything to do with what you and I and Kevin talked about on Friday? I can find a web page that is inaccessible.

[REDACTED]
-----Original Message-----

From: Farhat, Jody S NWD02
Sent: Saturday, June 11, 2011 6:10 PM
To: [REDACTED]
Cc: [REDACTED]
Subject: RE: No longer accessible Corps web page? (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

The only answer we have is that we continue to look at the inflow forecasts, snowpack and weather information every day and to date we have seen nothing that suggests that we will need additional releases from Garrison dam. If anything changes, we will let them know immediately. We are committed to an open and transparent decision making process.

Jody

-----Original Message-----

From: [REDACTED]
Sent: Saturday, June 11, 2011 5:48 PM
To: Farhat, Jody S NWD02; [REDACTED]
Cc: [REDACTED]
Subject: FW: No longer accessible Corps web page? (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Jody and [REDACTED]

The following email is in response to the information passed on to Commissioner Mark Armstrong after our conversation with Jody this afternoon. I do not believe anything we provide to him will pacify him. In your opinion what do you suggest in reference to his carry-on concerns. (Send him the link to the Master Manual?)

Thanks

[REDACTED]
Disaster Program Manager
HQ-USACE Contingency Operations Directorate

[REDACTED] NWO

From: Farhat, Jody S NWD02
Sent: Monday, June 13, 2011 7:33 AM
To: [REDACTED] NWO
Subject: RE: Missouri River stages and associated flow releases through SD (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Sending them to USGS sounds like the right answer. They are the official keepers of gage data.

-----Original Message-----

From: [REDACTED] NWO
Sent: Monday, June 13, 2011 7:31 AM
To: Farhat, Jody S NWD02
Subject: FW: Missouri River stages and associated flow releases through SD (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Jody:

Do we need to do this or should we just point FEMA toward the USGS?

Your thoughts.

[REDACTED]
-----Original Message-----

From: [REDACTED] NWO
Sent: Sunday, June 12, 2011 11:43 AM
To: [REDACTED] NWO
Subject: Fw: Missouri River stages and associated flow releases through SD (UNCLASSIFIED)

Ryan Buckley
US Army Corps of Engineers
Readiness Branch - Natural Disaster Program Manager BB (402) 490-1034

----- Original Message -----

From: CENWO-EOC NWO
To: Thomas, Kimberly S NWO; [REDACTED] NWO; [REDACTED] NWO; [REDACTED] NWO; [REDACTED] NWO; [REDACTED] NWO; Williamson, Eileen L NWO
Sent: Sun Jun 12 09:37:24 2011
Subject: FW: Missouri River stages and associated flow releases through SD (UNCLASSIFIED)

From: [REDACTED] SWD@SWG
Sent: Sunday, June 12, 2011 11:37:20 AM
To: CENWO-EOC NWO
Cc: CENWD-EOC NWD
Subject: RFI: Missouri River stages and associated flow releases through SD (UNCLASSIFIED)
Auto forwarded by a Rule

Classification: UNCLASSIFIED

Caveats: NONE

Need as much of the following info as I can get by no later than 1000 CDT Monday. Let me know immediately if you can't support this request.

RFI #1.

Does a table exist that outlines the various river stages for the Missouri river in South Dakota and the associated flows that cause those stages. FEMA is looking for this information to be able to answer questions on the NFIP determination of the start of the flood emergency at various locations throughout South Dakota. Probably need this at all the gages along the Missouri.

RFI#2.

Table of the flows for the Missouri River in South Dakota from the time that the earliest portion gave us a concern. Once again for all the gages on the river.

Thanks,

[REDACTED]
ESF#3 TL, DR-1984-SD, Pierre JFO
[REDACTED]

Classification: UNCLASSIFIED

Caveats: NONE

Classification: UNCLASSIFIED

Caveats: NONE

Classification: UNCLASSIFIED

Caveats: NONE

[REDACTED] NWO

From: Farhat, Jody S NWD02
Sent: Monday, June 13, 2011 10:04 AM
To: [REDACTED]@SWG; [REDACTED] NWO
Cc: [REDACTED] NWO
Subject: RE: Normal flow rates? (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

The link below will take you to the historical statics for the mainstem dams. There is information there on maximum, minimum and average releases since the mainstem reservoir system has been in place.

From those statistics, I can tell you that the average annual release from Oahe dam is 23,500 cfs, but it varies based on time of year.

<http://www.nwd-mr.usace.army.mil/rcc/projdata/projdata.html>

Jody

-----Original Message-----

From: [REDACTED] SWD@SWG
Sent: Monday, June 13, 2011 9:06 AM
To: [REDACTED] NWO
Cc: Farhat, Jody S NWD02; [REDACTED] NWO
Subject: FW: Normal flow rates? (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Leejay,
Do you have anything in the Master Plan that addresses "Normal Flow Rates" out of Oahe, even if they change or are some upper and lower norms?

Thanks,

[REDACTED]
ESF#3 TL, DR-1984-SD, Pierre JFO
[REDACTED]

-----Original Message-----

From: Thaxton, Steven [mailto:Steven.Thaxton@dhs.gov]
Sent: Monday, June 13, 2011 7:38 AM
To: [REDACTED] SWD@SWG
Subject: Normal flow rates?

Any luck on finding the "normal" CFS for our system.

Steven Thaxton
FEMA Region VIII Mission Assignments

Phone: (303) 235-4804 BB: (303) 815-8878

Email: steven.thaxton@dhs.gov <<mailto:steven.thaxton@dhs.gov>>

Classification: UNCLASSIFIED

Caveats: NONE

Classification: UNCLASSIFIED

Caveats: NONE

NWO

From: Farhat, Jody S NWD02
Sent: Monday, June 13, 2011 10:05 AM
To: [REDACTED] NWO
Cc: [REDACTED] NWO; [REDACTED] NWO; Thomas, Kimberly S NWO
Subject: FW: Flood Update #88 (UNCLASSIFIED)
Attachments: Missouri River Basin Water Management Situation Report 6-12-11.docx

Classification: UNCLASSIFIED
Caveats: NONE

[REDACTED] - see [REDACTED] note below

[REDACTED] we'll get it fixed for today's report.

Jody

-----Original Message-----

From: [REDACTED] NWO
Sent: Monday, June 13, 2011 8:58 AM
To: [REDACTED] NWO; Thomas, Kimberly S NWO; Farhat, Jody S NWD02
Subject: RE: Flood Update #88 (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

FYI,
The Missouri River Basin Water Management Situation Report for 6-12-11 states that Garrison is not scheduled to go above 1854. The three week forecast indicates that we'll be well above the elevation...

-----Original Message-----

From: [REDACTED] M NWO
Sent: Sunday, June 12, 2011 6:39 PM
To: DLL-CENWO-EOC CMT-ALL
Cc: [REDACTED] NWO; [REDACTED] HQ02; [REDACTED] SAW; [REDACTED] NWO; CENWD-EOC NWD
Subject: Flood Update #88 (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

****EMERGENCY OPERATIONS****

1. Situation:

24 hour precipitation included scattered thunderstorms across a large portion of the region. Flash flooding was reported across portions of northeast Montana. Some areas reported near 3.00" in just a few hours 14 miles north of Fort Peck. This heavy rain created flash flooding in and around the community of Wolf Point, Mt. Additional heavy pockets of rain around 0.25-0.5" fell across southwestern South Dakota and southwest Nebraska. Widespread heavier rains were reported across much of north central Kansas overnight. This area received on average 0.25-0.5" with isolated pockets of 2".

North Dakota:

Williston, ND - A construction contract was awarded to Les Schlegel Enterprise INC. of Kalispell, MT for \$137,000 on 11 June 2011. The contract is for 3700 tons of rock to improve the access road on the levee toe and also to construct 3 turnouts 20'x40'. Contractor shall begin work tomorrow, 13 June 2011. These operations are not funded under FCCE.

Iowa/Missouri:

Ditch 6, Hamburg, IA - Construction of the Ditch 6 levee raise is underway, roughly 90% complete, work began on 9 Jun 11. Completion date is 17 Jun 11. 11JUN 3,000LF of 4' HESCO Barrier were delivered for tie-in of the levee to I-29.

Blencoe (Monona County), IA - Delivered three-8" pumps today. Provided technical assistance to Monona County on potential flooding to Highway 175, it was reported that the Missouri River flood waters will crest close to the centerline of the road. USACE reported to Iowa EM Duty Officer to notify IDOT to look at raising low areas and to consider necessary road closures.

2. Weather:

2.a. Future Precipitation:

The Day 1 QPF (from 700 hours Sunday to 700 hours Monday):

Confidence is fairly high that moderate to locally heavy precipitation is expected across eastern Montana and western and central North Dakota this afternoon and overnight. The focus for the rainfall will be due to thunderstorms.

Moderate to locally heavy precipitation is expected from far northeastern Kansas, far southwestern Iowa and a large portion of Missouri, although confidence is low with the details. Widely scattered rainfall amounts of near 0.25" are expected across the lower end of the Missouri basin. See attached.

The Day 2 QPF (from 700 hours Monday to 700 hours Tuesday):

Thunderstorms are expected to develop Monday afternoon and evening across southeast Montana, western South Dakota, western Nebraska, and northeastern Wyoming. This is where the heaviest rainfall amounts are expected to occur with some 0.50" amounts possible. See attached.

The Day 3 QPF (from 700 hours Tuesday to 700 hours Wednesday):

An expansive axis of heavy showers and thunderstorms is expected, extending from the Dakotas southeastward all the way into the lower Ohio Valley by late Tuesday through early Wednesday. Moderate to heavy rainfall amounts are expected locally. See attached.

2.b Temperature forecast:

Across northwestern Wyoming, temperatures will warm to near seasonal values Sunday and Monday. Warmer and drier conditions are expected Tuesday. See attached table.

Winds Impacting Fort Peck, Williston, Garrison, and Oahe:

Fort Peck: Winds from the east-southeast will gradually become westerly by this evening and remain fairly light, increasing to 10 to 15 mph Monday afternoon.

Williston: Winds will continue from the southeast and become west Monday morning and increase to 15 mph.

Garrison: Gusty southeast winds will continue and become west by Monday afternoon and increase to 15 to 20 mph.

Pierre: Winds will continue out of the southeast and gusty, becoming light out of the northeast Monday afternoon.

3. Hydro Status:

3.a. River (Flood Stage/Current Stage/Forecast/Date of Peak: Peak Stage)

Montana

- * Yellowstone River at Forsyth/10.0/10.79/cresting/Jun 12: 10.95'
- * Yellowstone River at Miles City/13.0/13.31/cresting/Jun 12: 13.38'
- * Yellowstone River at Glendive/53.5/52.3/cresting/Jun 12: 52.33'
- * Yellowstone River near Sidney/19.0/16.99/rising/June 13: 17.4'

- * Jefferson River near Three Forks/8.0/9.31/cresting/Jun 12: 9.4'

- * Gallatin River near Logan/8.0/8.43/rising/Jun 14: 9.4'

- * Big Hole River near Melrose/6.0/7.11/steady/Jun 14: 7.3'

- * Missouri River near Toston/10.5/11.32/steady/Jun 16: 11.1'
- * Missouri River near Ulm/13.5/15.33/dropping/June 12: 15.48'
- * Missouri River near Wolf Point/13.0/14.4/gage washed out; repair underway
- * Missouri River near Culbertson/19.0/16.6/rising/above current forecast

- * Milk River at Tampico/25.0/27.29/dropping/Jun 10: 27.8'
- * Milk River at Nashua/20.0/28.01/cresting/Jun 9: 29.5'

- * Musselshell River nr Roundup/10.0/11.96/dropping/Jun 12: 12.8'

- * Missouri River near Landusky/25.0/31.83/dropping/Jun 11: 32.35'

Wyoming

- * North Platte River at Saratoga/8.5/9.91/steady/Jun 15: 10.25'
- * North Platte River nr Sinclair/9.0/10.75/steady/Jun 15: 11.1'

- * Laramie River at Laramie/5.0/5.36/steady/Jun 12: 5.3'
- * Laramie River near Fort Laramie/7.0/5.59/steady/Jun 12: 5.6'

North Dakota

- * Missouri River at Williston/22/29.04/rising/Jun 14: 29.9'
- * Missouri River at Bismarck/16.0/17.66/rising/Jun 15: 17.9'

- * James River at Jamestown/12.00/11.53(1,800 cfs)/steady/

South Dakota

- * Missouri River at Pierre/13.0/18.89/steady/
- * Missouri River near Greenwood/30.0/37.75/steady/
- * Missouri River near Gayville/55.0/55.94/rising/

Nebraska

- * North Platte River near Mitchell/7.5/9.38/steady/Jun 12: 9.3'
- * North Platte River at North Platte/6.0/7.53/steady/Jun 12: 7.5'

- * Missouri River at Sioux City/30.0/33.05/rising/Jun 16: 34.4'
- * Missouri River at Decatur/35.0/37.53/rising/Jun 17: 38.3'
- * Missouri River near Blair/26.5/31.19/rising/Jun 17: 31.5'
- * Missouri River at Omaha/29.0/31.62/rising/Jun 17: 32.6'
- * Missouri River at NE City/18.0/24.2/rising/Jun 17: 25.0'
- * Missouri River at Brownville/33.0/40.44/rising/Jun 17: 41.3'
- * Missouri River at Rulo/17.0/24.35/rising/Jun 16: 25.1'

3.b. Reservoirs:

Tributary Reservoirs:

Pipestem Reservoir, (ND) - fell 0.24' to elevation 1484.49 ft-msl. Inflows are near 77 cfs and the release was 500 cfs. 64.5% of the flood pool is occupied.

Jamestown Reservoir, (ND) - fell 0.30' yesterday to elevation 1444.93 ft-msl. Inflows are approximately 200 cfs and releases were 1,300 cfs. The combined Jamestown/Pipestem release is 1,800 cfs. 44.6% of the flood pool is occupied.

Heart Butte, (ND) - Reservoir fell 0.13 ft yesterday with 3.5% of its flood control pool occupied. Pactola (SD) dropped 0.27 ft yesterday with 6.5% of the flood pool occupied. Shadehill (SD) fell 0.10 ft yesterday with 2.8% of the flood pool occupied.

Yellowtail, (MT) - rose 0.93 ft to elevation 3633.72 ft-msl with inflows of 20,200 cfs. The release was 15,353 cfs. 88.6% of its multipurpose pool is occupied.

Tiber, (MT) - rose 1.3 ft to elevation 3000.9 ft-msl. Inflows were 14,485 cfs and releases are 1,456 cfs as the USBR stores water to help reduce inflows to Fort Peck. 37.6% of its flood pool is occupied.

Clark Canyon, (MT) - rose 0.42 ft to elevation 5547.59 ft-msl with inflows of 1,389 cfs and releases of 284 cfs as the USBR stores water to help reduce inflows to Fort Peck. 9.7% of its flood control pool is occupied.

Canyon Ferry, (MT) - rose 1.2 ft to elevation 3787.63 ft-msl with inflows of 31,215 cfs and releases of 11,347 cfs as the USBR stores water to help reduce inflows to Fort Peck. 84.0% of its multipurpose pool is occupied.

Glendo, (WY) - rose 0.14 ft to elevation 4638.20 ft-msl with inflows of 8,252 cfs and releases of 7,359 cfs. 14.8% of its flood control pool is occupied.

Missouri River Mainstem Reservoirs: (Water Management SITREP is attached) Following is a link to the Mainstem regulation forecast. Refresh to obtain the most recent copy if you keep this link open.

<http://www.nwd-mr.usace.army.mil/rcc/reports/twout.html>.

Notes for data below: pool elevation is the midnight value; average inflows and average releases are average daily values; scheduled releases are the release from the project at the end of the day per yesterday's project orders.

Fort Peck Dam (MT)

6/11 Pool Elev: 2251.8 ft-msl

24-hr change: 0.2'

6/11 Ave Inflow: 91,000 cfs

6/11 Ave Release: 60,600 cfs

6/12 Scheduled Release: 65,000 cfs

Garrison Dam (ND)

6/11 Pool Elev: 1853.1 ft-msl

24-hr change: 0.0'

6/11 Ave Inflow: 129,000 cfs

6/11 Ave Release: 135,200 cfs

6/12 Scheduled Release: 135,000 cfs

Oahe Dam (SD)

6/11 Pool Elev: 1618.6 ft-msl
24-hr change: -0.2'
6/11 Ave Inflow: 131,000 cfs
6/11 Ave Release: 150,400 cfs
6/12 Scheduled Release: 150,000 cfs

Big Bend Dam (SD)

6/11 Pool Elev: 1419.6 ft-msl
24-hr change: -0.1'
6/11 Ave Inflow: 146,000 cfs
6/11 Ave Release: 146,900 cfs
6/12 Scheduled Release: 150,000 cfs

Fort Randall Dam (SD)

6/11 Pool Elev: 1362.2 ft-msl
24-hr change: 0.2'
6/11 Ave Inflow: 149,000 cfs
6/11 Ave Release: 137,500 cfs
6/12 Scheduled Release: 140,000 cfs

Gavins Point Dam (NE-SD)

6/11 Pool Elev: 1207.7 ft-msl
24-hr change: -0.1'
6/11 Ave Inflow: 145,000 cfs
6/11 Ave Release: 146,100 cfs
6/12 Scheduled Release: 145,000 cfs

4. Emergency Operations:

4.a.1 Nebraska

North Platte, NE - Airport Levee Raise is at 35% completion with construction complete scheduled for June 14, 2011.

Omaha, (Eppley Airfield), NE - Technical team meet on site to discuss Omaha Levee with QAA. Based on survey of levees the airport authority identified two items for USACE hydraulic input for actions necessary for additional pumping across the levees. The group established a daily 0730 meeting to work through the action plan. The city is constructing new discharge lines over the levees.

South Sioux City, NE - The Corps trained the 185th Nebraska National Guard to perform 24 levee surveillance. The Guard will report back to the County EM Officer. Corps is scheduled to train Dakota City volunteer fire department to perform levee surveillance.

4.a.2 Montana

Roosevelt County, MT - requested Technical Assistance; personnel traveled to Wolf Point and provided technical assistance for their water plant (new not yet operational). The community is doing the work.

Poplar, MT - The work on the temporary levee is substantially completed. The embankment is completed and the only remaining item is to place sand bags along the top of poly on upper slope of levee. The Fort Peck Tribe is performing the work.

Ft. Peck Dam, MT - Twenty-four hour surveillance continues on the dam and the spillway. Project staff, with assistance from Western Area Power Administration will begin installing a temporary overhead line on Monday to restore primary power to the spillway, this should be complete 14 Jun 2011. Backup generators are being used to make gate changes in the interim.

Monitoring will be performed at every wingwall construction joint and at every construction joint for a minimum of 150 feet upslope of the end of the spillway.

Stilling basin erosion has eroded back to the wing walls to unweathered Bear Paw Shale. The unweathered Bear Paw Shale appears to be very tough stuff. A structural engineer is coming on Tuesday to evaluate the lower end of the spillway section. There are no problems noted but we want an additional opinion.

No other Significant Dam Safety Issues.

4.a.3 North Dakota

Williston, ND - Continue to monitor boil areas and seepage areas along entire levee with no significant changes to report. Seepage; Boil activity is increasing in area of sand berm, boils have been relatively small. One boil was ringed because it was moving fines. Additional layer of sand will be placed on the sand berm adjacent to the toe due to perceived soft areas at toe. Boil activity increasing between RW 18-24. Most are flowing clear. One boil was ringed. Current NWS forecast has stage to increase 1.9 ft above record (29.9 ft) by Monday. Preliminary estimate of freeboard at this stage is about 2.5 feet.

Garrison Dam, ND - Spillway repairs performing well under current release. Close surveillance of movement on the crest and upstream slope continues. No other significant dam safety issues to report.

Fort Yates, ND - Standing Rock Sioux Tribe (SRST): First contract is complete.

Second contract is approximately 57% complete. The contractor has begun placing the 5,000 tons of riprap on the north side of the causeway. This work will take up to 14 days. Option 2 work will also take up to 14 days to complete and will begin after the north side is complete.

4.a.4 South Dakota

Pierre/Ft. Pierre, SD - Pierre Levees - Turned levee over to cities on 04 Jun 2011.

Dakota Dunes, SD - Turned levee over to sponsor 11 Jun 2011.

Oahe Dam, SD - No significant dam safety issues.

Big Bend Dam, SD - No significant dam safety issues.

Fort Randall Dam, SD - No significant dams safety issues to report.

Gavins Point Dam, SD - No significant dam safety issues.

4.a.5 Wyoming

NSTR

4.a.6 Iowa/Missouri

Sioux City (Woodbury County), IA - Sioux City water wells. Received request from State of Iowa to provide an access road and ring dike protection to two city water wells for Sioux City, IA. Contract was awarded to Niewohner Construction, Inc. in the amount of \$370,250.00 under Contract Number W9128F-11-C-0041, dated 10 June 2011. 700LF of 4' HESCOs were sent to Sioux City. Construction started 11JUN, 1200 tons of rock for the access road was placed yesterday.

Mills County - Sent a USACE field team today to assess the sustainability/structural integrity of the county's berm construction project due to the anticipated high water event. A few boils were noted, but overall the berms were in good shape.

Harrison County - Delivered three-12" pumps today.

4.a.7 Missouri River Levee Surveillance:

7 Teams in the field today.

General Assessment of Observations: Boils and seepage areas continue to be observed along levees. Animal burrows prevalent on levees. Wet area developing on some berms. Levee work at Hamburg completed, working RWs.

R562 Peru MR RB: Multiple Small Boils, clear flow, very slow faucet. Sponsor did not use granular material berm USACE recommended due to limitation of material.

L601 Watkins Ditch RB: Light to medium seepage area between Pony Creek and Old Platteview bridge. No seepage, but needs to be monitored.

L594-597 (BW-PV-Waubonsie) L594-601: Uncompleted closure structures across LB and RB of Waubonsie Creek. Vegetation and access issues.

L550 MR LB: Two medium boils, trickling clear water, have previously moved material and is located one mile upstream of Nishnabotna tie off on Nishnabotna River. Eleven significant boils near Nishnabotna tie off, ringed by sponsor and a number of pin boils adjacent in field. This area will be monitored. Sloughing occurring around flowing relief wells. About 3 inch movement with 50 foot length, will recommend to sponsor same repair as area south's previous repair. Plastic placed to protect recently raised levee at multiple locations on LB.

Sponsor Surveillance: Sponsor surveillance activities varies from minimal to robust.

4.b Equipment:

Sandbags

Issued: 14,251,000

On Hand: 4,803,500

Projected: 6,500,000

HESCO 3'

Issued: 8,200 LF

On Hand: 855 LF

Projected: 14,000 LF

HESCO 4'

Issued: 43,070 LF

On Hand: 22,580 LF

Projected: 25,000 LF

Poly Rolls

Issued: 2,596 rolls
On Hand: 2,104 rolls
Projected: 1,500 rolls

Pumps

Issued: 33
On Hand: 19
Projected: 30

Additional Supplies due in:

Pumps: Undergoing maintenance checks now (MPRO tech).
SWL Pumps: Locating 4-5 pumps; coordinating trans.
Sling Bags: 300 - 2,000 lb heavy bags with slings on-hand.

4.c Funding:

- * Total Code 200 Funding received to date for this event: \$47,662,425
- * Total Code 200 Funding waiting to be received for this event: \$0
- * Total Code 200 Funding revoked to date for this event: \$2,834,000
- * Class 219 - Emergency Operations - Direct Assistance - \$250,000 - WAD and FAD received 3/14/2011
- * Class 219 - Emergency Operations - Direct Assistance - \$3.825M - WAD received 03/15/11. FAD received 03/16/11.
- * Class 219 - Additional Funds Request on 24 March - \$231,425 - WAD and FAD received 03/24/11.
- * Class 219 - Emergency Operations - Direct Assistance - \$2.5M revoked - 4/13/11
- * Class 219 - Emergency Operations - Direct Assistance - \$100k revoked - 4/22/11
- * Class 210 - Response Operations - Alabama Tornadoes - \$56k - MIPR - 4/30/11 - received \$45k on 4/30/11
- * Class 210 - Response Operations - Alabama Tornadoes - \$25k - Request and received for EOC Operations and deployments on 4/30/11
- * Class 210 - Response Operations - Alabama Tornadoes - \$14k revoked - 05/02/2011
- * Class 210 - Response Operations - Alabama Tornadoes - \$10k revoked - 05/03/2011
- * Class 200 - Emergency Operations - Response Operations - \$500,000 - WAD and FAD received on 05/25/11
- * Class 200 - Emergency Operations - Response Operations - \$750,000 - WAD and FAD received on 05/26/11
- * Class 200 - Emergency Operations - Response Operations - \$5,000,000 - FAD received 05/27/11
- * Class 200 - Emergency Operations - Response Operations - \$10,000,000 - FAD received 05/27/11
- * Class 200 - Emergency Operations - Response Operations - \$3,000,000 - request sent 05/27/11 - WAD received for \$2M received on 05/31/11 - verbal received on 06/04/11 for \$1M
- * Class 200 - Emergency Operations - Response Operations - \$10,000,000 - request sent 05/28/11 - WAD received on received 05/28/11
- * Class 200 - Emergency Operations - Response Operations - \$3,000,000 - request sent 05/31/11 - WAD received 06/01/11
- * Class 200 - Emergency Operations - Response Operations - \$6,500,000 - request sent 06/01/11 - WAD for \$3M received 06/02/011 - verbal received on 06/04/11 for \$3.5M
- * Class 200 - Emergency Operations - Response Operations - \$1,500,000 - request sent 06/03/11 - verbal received 06/03/11
- * Class 200 - Emergency Operations - Response Operations - \$1,000,000 - request sent 06/03/11 - verbal received 06/03/11 - WAD received 06/06/11
- * Class 200 - Emergency Operations - Response Operations - \$500,000 - request sent 06/04/11 - verbal received 06/04/11
- * Class 200 - Emergency Operations - Response Operations - \$2,000,000 - request sent 06/05/11 - verbal received 06/05/11

* Class 200 - Emergency Operations - Response Operations - \$400,000 - request sent 06/06/11 - verbal received 06/07/11
* Class 200 - Emergency Operations - Response Operations - \$50,000 - received 06/08/11
* Class 200 - Emergency Operations - Response Operations - \$980,000 - request sent 06/08/11 - WAD received 06/09/11
* Class 200 - Emergency Operations - Response Operations - \$750,000 - request sent 06/09/11 - WAD received 06/10/11
* Class 21M - Emergency Operations - Response Operations - \$210k revoke request sent 06/10/11

* Total Code 500 Funding received to date: \$827,904
* Class 520 Funding - Advance Measures - Technical assistance - \$100K. WAD and FAD received on 3/2/11.
* Class 52A Additional Request for Funding - Advance Measures - Technical assistance - \$100K. WAD and FAD received on 3/10/11.
* Class 520 Additional Request for Funding - Advance Measures - Technical assistance - \$101,640. WAD and FAD received on 3/24/11.
* Class 519 Funding - Advance Measures - Direct Assistance - \$376,264. WAD and FAD received on 3/28/11.
* Class 520 Funding - Advance Measures - Technical assistance - \$110k - FAD received on 05/12/11.
* Class 510 Funding - Advance Measures - Direct assistance - \$40k - FAD received on 05/26/11

Daily Labor Burn Rate: \$137,500
Daily Contract Burn Rate: \$280,000
Combined Daily Burn Rate: \$417,500

4.d Number of Personnel Supporting EOC Operations:

Working in field: 52
Working in District: 50
Outside District: 1

5.a EOC Activation - Level IV - 24 hour Activation (Shifts: 0700-1930)

[REDACTED], Readiness Branch U.S. Army Corps of Engineers, Omaha District
1616 Capitol Ave, Ste 9000 (Attn: CENWO-OD-E) Omaha, NE 68102-9000
Phone: [REDACTED]
Cell: [REDACTED]
Fax: [REDACTED]
[REDACTED]@usace.army.mil

Classification: UNCLASSIFIED
Caveats: NONE

Classification: UNCLASSIFIED
Caveats: NONE

Missouri River Basin Water Management Situation Report – 6-12-11

Reservoir Conditions

The upper three reservoirs of the Missouri River Mainstem Reservoir System provide the bulk of the storage of water. All three are in their exclusive flood control zones, with Fort Peck passing its spillway crest (continuing up on raised spillway gates) and the other two being near their spillway crests. Table 1 summarizes the situation as of 0000 hours this morning. Relatively high inflows continue to occur into Fort Peck Reservoir from primarily rains earlier in the week. More details on the reservoirs can be found on the daily bulletin prepared by the Missouri River Basin Water Management Division at:

<http://www.nwd-mr.usace.army.mil/rcc/reports/showrep.cgi?4BULL0MR1>.

Table 1. Key Reservoir Data (through 0000 hrs 6/12/11)

Reservoir	Inflow kcfs	Outflow kcfs	Top of Spillway Gates feet msl	Current Level feet msl	24-hr Change feet
Fort Peck	91.0	60.6	2250	2251.8	0.2
Garrison	129.0	135.2	1854	1853.1	0.0
Oahe	131.0	150.4	1620	1618.6	-0.2
Big Bend	146.0	146.9	1423	1419.6	-0.1
Fort Randall	149.0	137.5	1375	1362.2	0.2
Gavins Point	145.0	146.1	1210	1207.7	-0.1

Based on the current level data on the upper three reservoirs, the amount of remaining storage has been changing in its distribution among the upper three, larger reservoirs. Fort Peck has become more negative as water is stored higher on the raised spillway gates (surcharged above exclusive flood control). Also, less of the exclusive flood control storage is being used at Garrison and Oahe. The lower three reservoirs have much less capability to store the inflows that are coming into the Missouri River Mainstem Reservoir System, with Fort Randall Reservoir having the greater amount. As of today, the stored water has not yet entered the exclusive flood control zones of the three smaller reservoirs; therefore, 100 percent of their exclusive flood control storage remains available. Table 2 summarizes the storage volumes of all six System reservoirs, with the last column listing the amount of exclusive flood control storage that remains as of today. Spillways are now being used at five of the six reservoirs, with no plans to use the Oahe spillway at this time. Because the spillway gates are open at Fort Peck and the reservoir is now being surcharged over the top of the exclusive flood control zone, the percent of exclusive has become negative. A positive number must always appear for Oahe as long as the spillway gates remain closed at that project. There are no plans at this time to go above 1854, the top of exclusive, at Garrison even though all 28 spillway gates are open.

Table 2. Reservoir Storage Data (through 0000 hrs 6/12/11)

Reservoir	Current	Total	Remaining	Exclusive	% Excl Left
	kAF	kAF	kAF	kAF	
Fort Peck	18,896	18,463	-433	971	-45
Garrison	23,460	23,821	361	1,489	24
Oahe	22,623	23,137	514	1,102	47
Big Bend	1,605	1,798	193	60	100
Fort Randall	4,172	5,418	1,246	985	100
Gavins Point	385	450	65	57	100

Releases from all six reservoirs are currently exceeding records prior to 2011. Table 3 provides release data for all six reservoirs to provide some perspective on the changes that will be happening over the next 2 weeks. Note that the release from Fort Peck has been increased to 65 kcfs today and will be held at that level for at least the next week before it is returned to 60 kcfs. Other than that, the releases 1 week out will be at the currently anticipated maximum releases at the other five reservoirs. A full listing of the data through mid-July is available at: <http://www.nwd-mr.usace.army.mil/rcc/reports/twout.html>.

Table 3. Reservoir Release Comparisons (through 0000 hours 6/12/11)

Reservoir	Yesterday	Forecast	7 days out	14 days out	Pre-2011
	kcfs	Today	19 June	26 June	Record
	kcfs	kcfs	kcfs	kcfs	kcfs
Fort Peck	60.6	65.0	65	60	35
Garrison	135.2	135.0	150	150	65
Oahe	150.4	150.0	150	150	59
Big Bend	146.9	150.0	150	150	74
Fort Randall	137.5	140.0	148	148	67
Gavins Point	146.1	145.0	150	150	70

River Conditions

Levees have been or are currently being constructed by the Corps in six cities from Bismarck/Mandan, ND to South Sioux City, NE, resulting primarily from the releases from Garrison, Oahe, and Gavins Point Dams. Many communities along the lower Missouri River are currently experiencing Missouri River flows that are above flood stage by several feet. The flood stages currently being experienced will be exceeded as Missouri River Mainstem Reservoir System releases increase over the next few weeks to pass the anticipated inflows from mountain snowpack runoff and heavy rains in the Missouri River basin. Table 4 summarizes the current conditions as of 0600 hours this morning and the Corps' current forecast for crest stages. Note that the stage at Pierre is currently just above the forecasted crest elevation for the current upstream release of 150 kcfs.

Table 4. Missouri River Stage Data for 6/12/11 at 0600 CDT

Location	Flood Stage	Current Stage	Forecast Crest Stage	Date of Crest Stage
Bismarck, ND	16	17.6	20-21	mid-Jun
Pierre, SD	13	18.9	18.7	mid-Jun
Sioux City, IA	30	33.1	35-37	mid-Jun thru July
Decatur, NE	35	37.5	40-42	mid-Jun thru July
Omaha, NE	29	31.5	34-36	mid-Jun thru July
Nebraska City, NE	18	24.2	27-28+	mid-Jun thru July
St. Joseph, MO	17	22.9	27-32	mid-Jun thru July
Kansas City, MO	32	24.9	30-39	mid-Jun thru July
Waverly, MO	20	24.1	27-31	mid-Jun thru July
Boonville, MO	21	22.9	27-33	mid-Jun thru July
Hermann, MO	21	22.9	27-33	mid-Jun thru July

Figures 1 and 2 present the plots of the 0600 hour stages at Bismarck and Pierre, respectively. The stages at Bismarck have not reached the initial estimated levels as the Garrison Reservoir releases have increased. The reduction is likely due to the scouring of the channel as the flows are well above the levels in recent years. The stages at Pierre have closely followed the estimated levels, being just slightly over the initial estimate for crest elevation, as the upstream Oahe Reservoir releases have reached the 150-kcfs level. The stages at both cities are still 3 to 4 feet below the constructed levee crests.

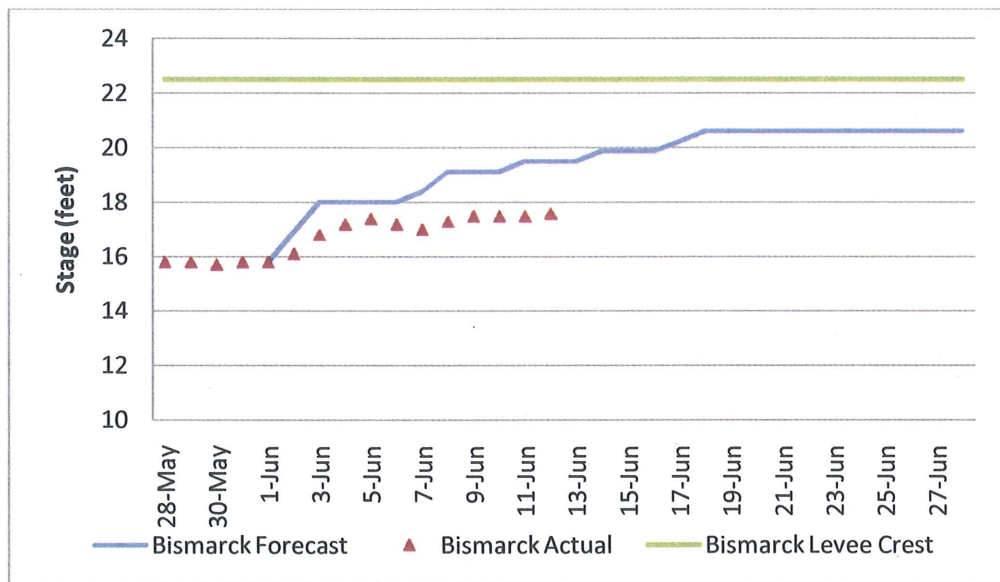


Figure 1. Missouri River stages at Bismarck, North Dakota.

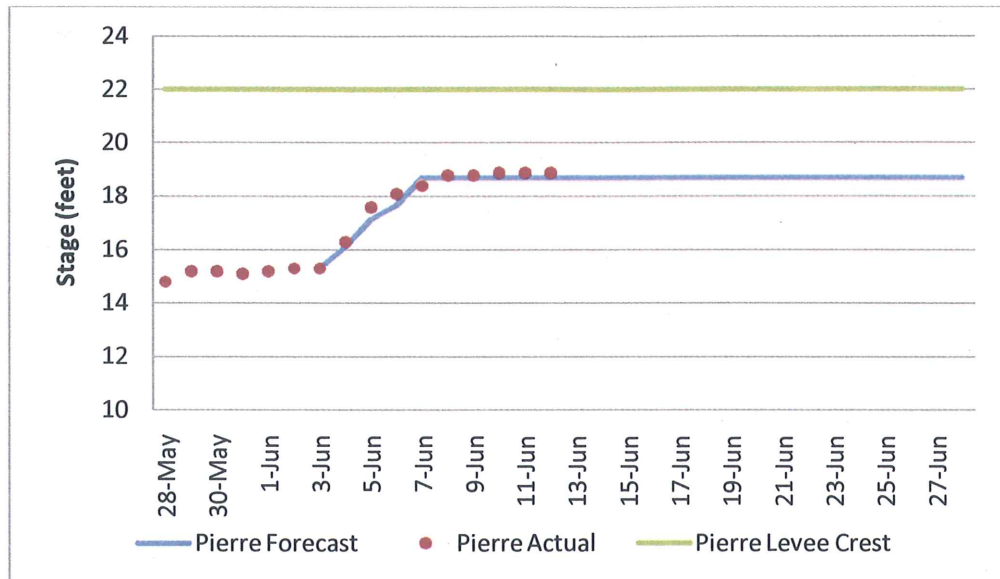


Figure 2. Missouri River stages at Pierre, South Dakota.

Information on Current Mountain Snowpack and Forecasted Rainfall

Releases from the System reservoirs are based on snowpack and rainfall forecasts in the Missouri River basin. An updated snowfall forecast has not yet been prepared today; however, the Hydrologic Prediction Center (HPC) of NOAA prepares a rainfall forecast daily for up to the next 5 days, with an accumulated figure also presented on its website. The next 5 days do not look good as widespread rain is forecasted for much of the Missouri River Basin, including heavier rainfall in North Dakota, South Dakota, and in a large area of the lower basin. Figure 3 is the accumulated 5-day rainfall forecast for today by HPC, and Figure 4 is Friday's mountain snowpack update by the Corps.

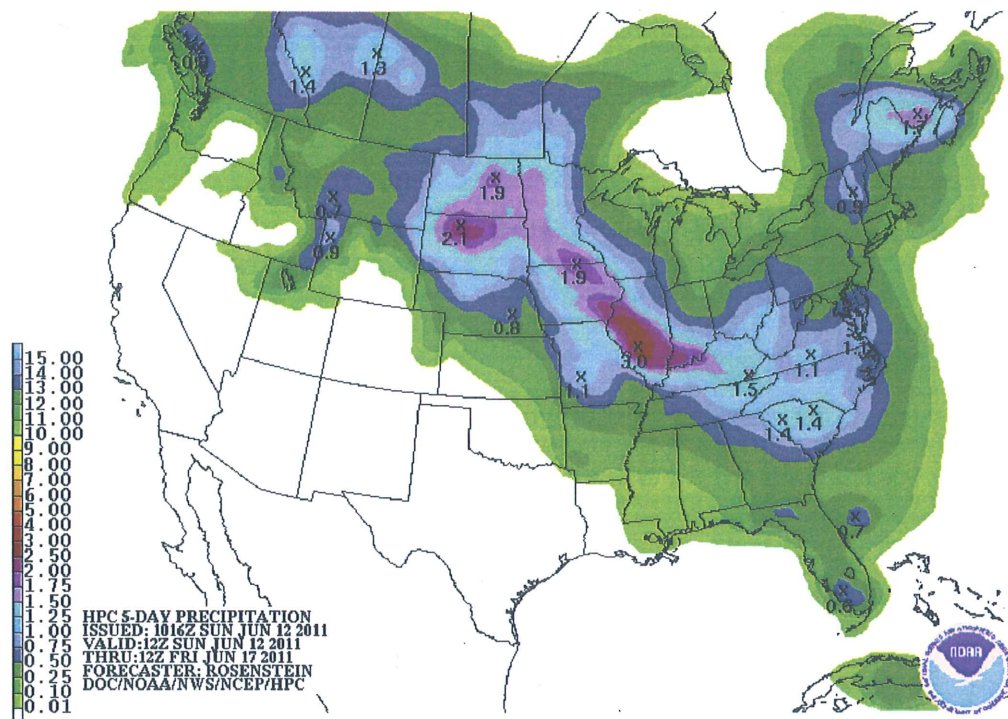
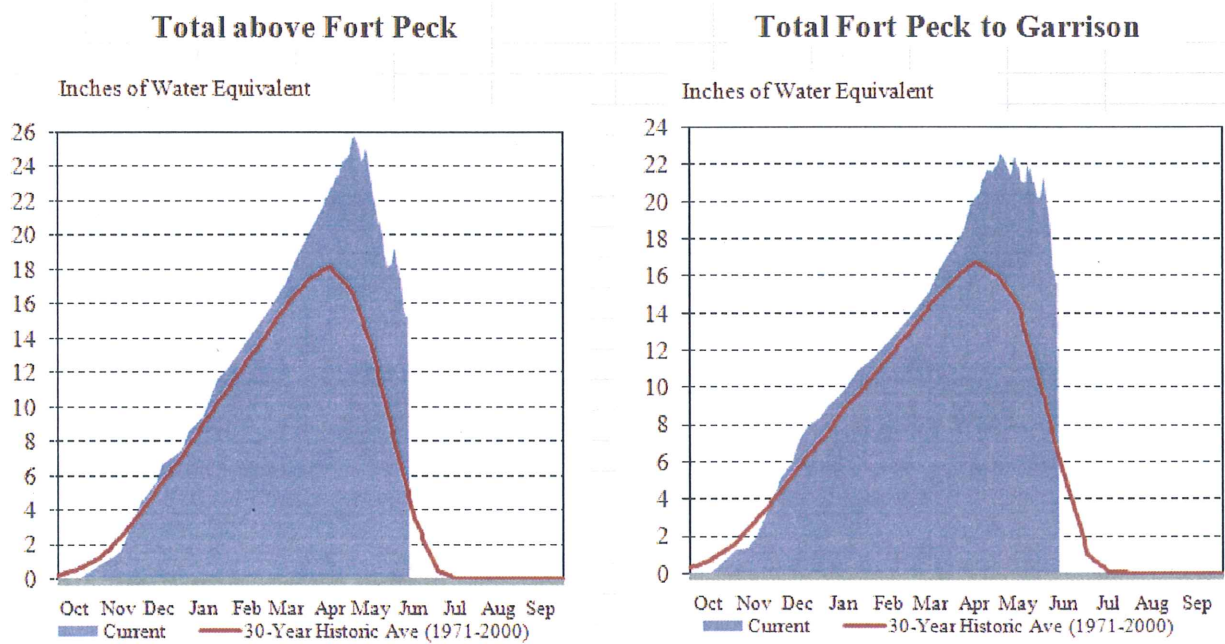


Figure 3. 5-day total QPF ending 0700 Friday, June 17, 2011.



The Missouri River Basin mountain snowpack normally peaks near April 15. The mountain snowpack in both the "Total above Fort Peck" and the "Total Fort Peck to Garrison" reaches appears to have peaked on May 2 at 141 percent and 136 percent of the normal April 15 peak, respectively. The current mountain snowpack, as of June 10, is 82 percent and 94 percent of the normal April 15 peak in the "Total above Fort Peck" and the "Total Fort Peck to Garrison" reaches, respectively.

June 10, 2011

Provisional data. Subject to revision.

Figure 4. Missouri River basin mountain snowpack water content summary, 2010-2011 – June 10, 2011.

Current Actions and Notable Information

Levee construction for six cities is basically completed to prepare for the high flows on the Missouri River that will result from the increased releases from the Missouri River Mainstem System reservoirs. The Omaha District has been working with the cities of Bismarck/Mandan, ND, Pierre/Ft. Pierre, SD, Dakota Dunes, SD, and South Sioux City, NE to construct levees to limit flood impacts to those cities. Floodplain evacuations have been ongoing for many lower-lying areas along the lower Missouri River. A levee is also currently being constructed to protect Hamburg should the L-575 levee fail. Issues have surfaced on the capability of this levee to make it through the flood due to three slump failures in the past week at river stages that have not yet exceeded those experienced in the high flows of 2010.

Figure 5 is a plot showing the nearest gage 0600 stages for 2010 and 2011 (through today), both years with high river stages at Nebraska City. This figure shows that the river level began to rise a little yesterday after it had been relatively static for the previous 14 days at a level just under the maximum that occurred in 2010. The forecasts for river stages at Nebraska City for the next week have been revised down slightly to show a rise to 25.1 feet by next Friday, June 17.

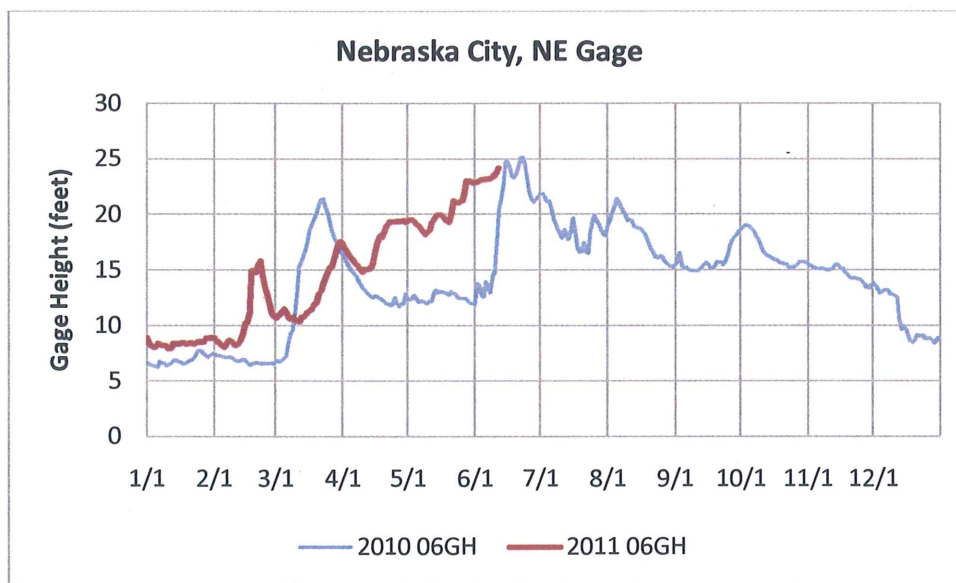


Figure 5. River stages at Nebraska City, Nebraska for 2010 and 2011.

Floodplain inundation maps have been posted by the Omaha District to identify the areas of potential flooding for the emergency managers and the public. The Kansas City District's floodplain inundation maps are now available on its Flood Response Information website. Overtopping of levees information is also available from both districts.

Spotty cells of heavy rains occurred throughout the basin yesterday and over night, with generally light rainfall over a major part of the basin. Figure 6 shows the amount of rain that fell yesterday in the basin and surrounding area of the Central Region of the United States.

NWS Central Region: Current 1-Day Observed Precipitation
Valid at 6/12/2011 1200 UTC- Created 6/12/11 15:48 UTC

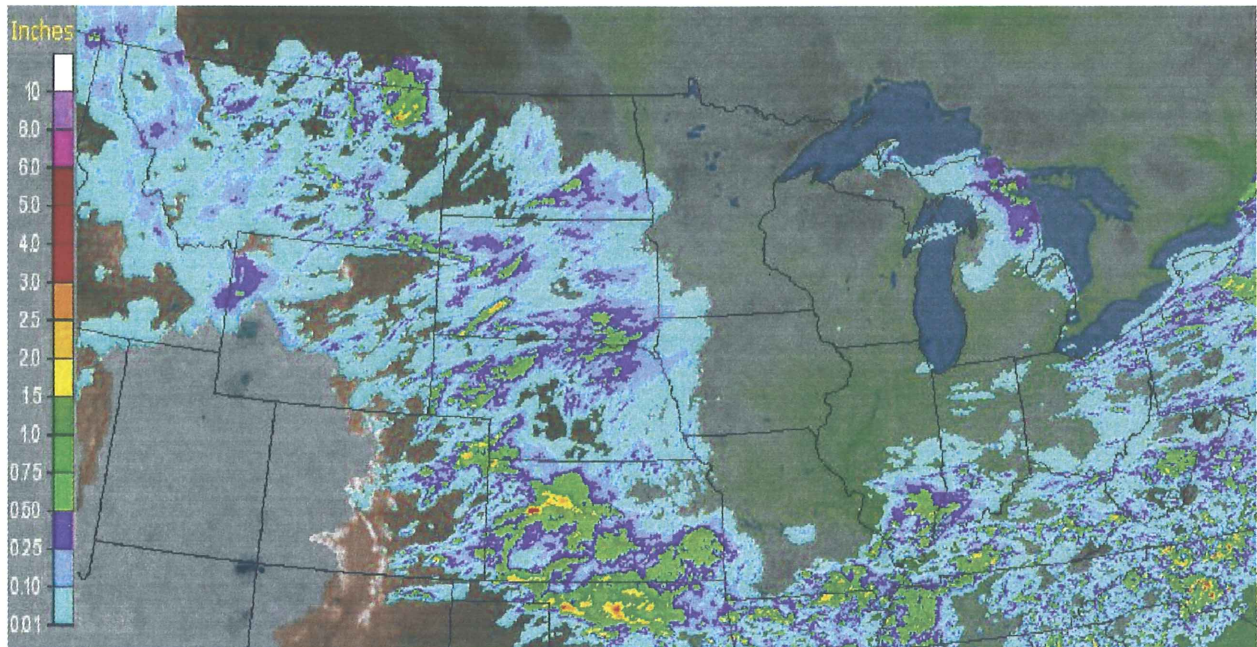


Figure 6. Rainfall on the Central Region of the United States for June 11, 2011.

[REDACTED] NWO

From: Farhat, Jody S NWD02
Sent: Monday, June 13, 2011 12:25 PM
To: [REDACTED] SAW
Cc: [REDACTED] NWO
Subject: RE: A few questions (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

[REDACTED]

150,000 cfs is our currently anticipated peak release. At this time we don't anticipate going any higher, but if the upper basin continues to be hit with much above normal rainfall, that number could potentially increase. The dams can safely pass much higher releases, but we have no intention of utilizing the full capacity. For example, the spillway at Gavins Point can pass 345,000 cfs.

I have limited knowledge of the levees, but I know the Omaha District has recently done some freeboard surveys. I'm not sure exactly who in the Omaha District has that information but I'm sure [REDACTED] can point you to it.

Thanks,
Jody

-----Original Message-----

From: [REDACTED] SAW
Sent: Monday, June 13, 2011 11:29 AM
To: Farhat, Jody S NWD02
Subject: A few questions (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE


I am going to give the presentation for the MO System in the morning to the CMT here. TA general understanding of the system is valuable b/c Nebraska will see what the system has to pass. I have a couple of quick questions.

1. 150 cfs release out of Gavins and others - will this ever be higher ? Can the dams safely release more than the 150 cfs or 65cfs from Peck?
2. The inundation maps along the MO - what elevations are used for the top of levee? I know we have the constructed top of levee from when the structures are built but what I do not know is have the top of levees been resurveyed recently to document any settlement or changes?

Thanks

I will try to call you later today also.

Thanks


Classification: UNCLASSIFIED
Caveats: NONE

Classification: UNCLASSIFIED
Caveats: NONE

[REDACTED] NWO

From: Farhat, Jody S NWD02
Sent: Monday, June 13, 2011 12:13 PM
To: [REDACTED] NWD02
Subject: Coordination with WAPA (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

[REDACTED] - can you look over the notes below and make any changes you see fit. I'm not certain I have the language right or even the people on the call.

I plan to send this to COL Ruch, BG McMahon, Witt, [REDACTED] Bertino, [REDACTED] and the OPS managers to update them on the situation with WAPA.

[REDACTED] and I participated in another conference call with WAPA officials (Bob Harris, Jody Sundsted, and Pete Kinney) this morning. We emphasized the dam safety concerns with regard to the operation of the outlet tunnels and spillways in the current manner.

WAPA will redouble their efforts to reduce fluctuations at the mainstem dams through the use of thermal (coal and gas) generating units and by making adjustments in the wind in the balancing area portfolio. They had already made adjustments the portion of the wind generated by Basin Electric, but will now make adjustments in the remaining wind as needed. To date, they have resisted this step since they have to pay liquidated damages for the remaining wind energy if they don't market it.

They may also ask us to increase spills at the projects like we did over the past weekend. It is cheaper for them to take the hydro off line and lose that revenue source, than to pay the liquidated damages associated with not marketing the wind.

We emphasized that our primary concerns were to minimize fluctuations in releases through the outlet tunnels and spillways, and to meet the daily targets in releases/generation with limited hourly fluctuations to minimize impacts to downstream locations.

We made it clear that decisions at this time cannot be made based on economics and that the current operation of the outlet tunnels and spillways is a dam safety issue.

Jody Farhat, P.E.
Chief, Missouri River Basin Water Management

jody.s.farhat@usace.army.mil
Office: 402-996-3840
Cell: 402-350-1417
Home: 402-551-6013

Classification: UNCLASSIFIED
Caveats: NONE

[REDACTED] NWO

From: Farhat, Jody S NWD02
Sent: Monday, June 13, 2011 12:28 PM
To: [REDACTED] NWO; [REDACTED] NWO
Cc: [REDACTED] NWO; [REDACTED] NWO; Swenson, Mike NWD02
Subject: RE: Gate Questions (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: FOUO

[REDACTED] and [REDACTED] - thanks, this is great information and will do for now.

Jody

-----Original Message-----

From: [REDACTED] NWO
Sent: Monday, June 13, 2011 12:26 PM
To: [REDACTED] NWO
Cc: Farhat, Jody S NWD02; [REDACTED] NWO; [REDACTED] NWO
Subject: RE: Gate Questions (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: FOUO

Thanks [REDACTED]

That should suffice. With our current 3 week forecast, we'd be close to having to back off the regulating tunnel releases and shift some over to the spillway in order to provide the needed surcharge. Jody, if you need anything else just let us know.

-----Original Message-----

From: [REDACTED] NWO
Sent: Monday, June 13, 2011 12:21 PM
To: [REDACTED] NWO
Cc: Farhat, Jody S NWD02
Subject: RE: Gate Questions (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: FOUO

[REDACTED]

The information you requested is as follows:

1) Four units running, regulating tunnels at capacity (assuming 85,000 cfs is maximum capacity).

Plant - 31,000 cfs
Tunnels - 85,000 cfs
Spillway - 34,500 cfs (24 gates at 1', and 4 gates at 2')

2) Four units running, regulating tunnels closed.

Plant - 31,000 cfs
Tunnels - 0 cfs
Spillway - 120,500 (28 gates at 4')

3) Plant and regulating tunnels shutdown, all releases via spillway.

Plant - 0 cfs

Tunnels - 0 cfs

Spillway - 150,200 (28 gates at 5')

If you need more information, I am available to discuss.

-----Original Message-----

From: [REDACTED] NWO

Sent: Monday, June 13, 2011 8:41 AM

To: [REDACTED] NWO

Cc: Farhat, Jody S NWD02

Subject: Gate Questions (UNCLASSIFIED)

Classification: UNCLASSIFIED

Caveats: FOUO

[REDACTED]
I'd like to know how high we'd have the spillway gates raised, if they were raised evenly to provide surcharge on the reservoir, and we were releasing 150,000 cfs for the following scenarios:

- 1) Four units running, regulating tunnels at capacity.
- 2) Four units running, regulating tunnels closed.
- 3) Plant and regulating tunnels shutdown, all releases via spillway.

[REDACTED]
[REDACTED]
Garrison Project

Classification: UNCLASSIFIED

Caveats: FOUO

Classification: UNCLASSIFIED

Caveats: FOUO

Classification: UNCLASSIFIED

Caveats: FOUO

Classification: UNCLASSIFIED

Caveats: FOUO

[REDACTED] NWO

From: Farhat, Jody S NWD02
Sent: Monday, June 13, 2011 12:38 PM
To: [REDACTED] SAW
Subject: RE: A few questions (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

The Yellowstone river comes in downstream of Fort Peck and is the other major contributor in terms of runoff into the system. Flow on the Yellowstone today are 75,000 cfs and have been as high as 157,000 cfs during May.

-----Original Message-----

From: [REDACTED] SAW
Sent: Monday, June 13, 2011 12:29 PM
To: Farhat, Jody S NWD02
Subject: RE: A few questions (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Another question asked was why Peck is releasing only 65k and the others pushing 150k? What is the maximum release for Peck?

I do not plan to share with the folks the maximum releases but just for my information. I will reiterate that 150k is the planned release and can safely pass the water through the system.

Thanks

[REDACTED]

-----Original Message-----

From: Farhat, Jody S NWD02
Sent: Monday, June 13, 2011 1:25 PM
To: [REDACTED] M SAW
Cc: [REDACTED] NWO
Subject: RE: A few questions (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

[REDACTED]

150,000 cfs is our currently anticipated peak release. At this time we don't anticipate going any higher, but if the upper basin continues to be hit with much above normal rainfall, that number could potentially increase. The dams can safely pass much higher releases, but we have no intention of utilizing the full capacity. For example, the spillway at Gavins Point can pass 345,000 cfs.

I have limited knowledge of the levees, but I know the Omaha District has recently done some freeboard surveys. I'm not sure exactly who in the Omaha District has that information but I'm sure [REDACTED] can point you to it.

Thanks,
Jody

-----Original Message-----

From: [REDACTED] SAW
Sent: Monday, June 13, 2011 11:29 AM
To: Farhat, Jody S NWD02
Subject: A few questions (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

I am going to give the presentation for the MO System in the morning to the CMT here. TA general understanding of the system is valuable b/c Nebraska will see what the system has to pass. I have a couple of quick questions.

1. 150 cfs release out of Gavins and others - will this ever be higher ? Can the dams safely release more than the 150 cfs or 65cfs from Peck?
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Thanks

I will try to call you later today also.

Thanks
[REDACTED]

Classification: UNCLASSIFIED
Caveats: NONE

Classification: UNCLASSIFIED
Caveats: NONE

Classification: UNCLASSIFIED
Caveats: NONE

[REDACTED] NWO

From: Farhat, Jody S NWD02
Sent: Monday, June 13, 2011 1:02 PM
To: [REDACTED] NWO
Subject: RE: Gate Questions (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: FOUO

You and I are on the same page there, no doubt!

-----Original Message-----

From: [REDACTED] NWO
Sent: Monday, June 13, 2011 12:50 PM
To: Farhat, Jody S NWD02; [REDACTED] NWO
Cc: [REDACTED] NWO; [REDACTED] NWO; [REDACTED] NWD02
Subject: RE: Gate Questions (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: FOUO

That does not mean we condone utilizing the surcharge... :)

-----Original Message-----

From: Farhat, Jody S NWD02
Sent: Monday, June 13, 2011 12:28 PM
To: [REDACTED] NWO; [REDACTED] NWO
Cc: [REDACTED] NWO; [REDACTED] NWO; [REDACTED] A NWD02
Subject: RE: Gate Questions (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: FOUO

[REDACTED] and [REDACTED] - thanks, this is great information and will do for now.

Jody

-----Original Message-----

From: [REDACTED] NWO
Sent: Monday, June 13, 2011 12:26 PM
To: [REDACTED] NWO
Cc: Farhat, Jody S NWD02; [REDACTED] NWO; [REDACTED] NWO
Subject: RE: Gate Questions (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: FOUO

Thanks [REDACTED],

That should suffice. With our current 3 week forecast, we'd be close to having to back off the regulating tunnel releases and shift some over to the spillway in order to provide the needed surcharge. Jody, if you need anything else just let us know.

[REDACTED]

-----Original Message-----

From: [REDACTED] NWO

Sent: Monday, June 13, 2011 12:21 PM
To: [REDACTED] NWO
Cc: Farhat, Jody S NWD02
Subject: RE: Gate Questions (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: FOUO

[REDACTED],
The information you requested is as follows:

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Tunnels - 85,000 cfs

Spillway - 34,500 cfs (24 gates at 1', and 4 gates at 2')

2) Four units running, regulating tunnels closed.

Plant - 31,000 cfs

Tunnels - 0 cfs

Spillway - 120,500 (28 gates at 4')

3) Plant and regulating tunnels shutdown, all releases via spillway.

Plant - 0 cfs

Tunnels - 0 cfs

Spillway - 150,200 (28 gates at 5')

If you need more information, I am available to discuss.

[REDACTED]
-----Original Message-----

From: [REDACTED] NWO

Sent: Monday, June 13, 2011 8:41 AM

To: [REDACTED] NWO

Cc: Farhat, Jody S NWD02

Subject: Gate Questions (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: FOUO

[REDACTED]
I'd like to know how high we'd have the spillway gates raised, if they were raised evenly to provide surcharge on the reservoir, and we were releasing 150,000 cfs for the following scenarios:

1) Four units running, regulating tunnels at capacity.

2) Four units running, regulating tunnels closed.

3) Plant and regulating tunnels shutdown, all releases via spillway.

[REDACTED]
[REDACTED]
Garrison Project

Classification: UNCLASSIFIED

[REDACTED] NWO

From: Farhat, Jody S NWD02
Sent: Monday, June 13, 2011 2:02 PM
To: DLL-CENWD-PDR
Subject: FW: CCIR - Non-federal Levee Reported Breach at Union Township (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

fyi

-----Original Message-----

From: [REDACTED] BG NWD
Sent: Monday, June 13, 2011 2:00 PM
To: Hofmann, Anthony J COL NWK
Cc: Ruch, Robert J COL NWO; Tipton, Robert A Col NWD; Farhat, Jody S NWD02; Blechinger, Erik T NWO; [REDACTED] NWD; Anderson, G Witt NWD; [REDACTED] NWK; [REDACTED] NWK; [REDACTED] NWK; [REDACTED] NWK; [REDACTED] NWK
Subject: Re: CCIR - Non-federal Levee Reported Breach at Union Township (UNCLASSIFIED)

Roger. Thanks.

----- Original Message -----

From: Hofmann, Anthony J COL NWK
To: McMahon, John R BG NWD
Cc: Ruch, Robert J COL NWO; Tipton, Robert A Col NWD; Farhat, Jody S NWD02; Blechinger, Erik T NWO; [REDACTED] NWD; Anderson, G Witt NWD; [REDACTED] NWK; [REDACTED] NWK; [REDACTED] NWK; [REDACTED] NWK
Sent: Mon Jun 13 11:00:03 2011
Subject: RE: CCIR - Non-federal Levee Reported Breach at Union Township (UNCLASSIFIED)

Sir-

I was just informed that a non-federal levee in Union Township has breached. This is between miles L505-508 and is a levee that had been breached during last year's high water events. Not sure at this time if it is overtopped.

We are working to get additional information and will inform all of this when complete. [REDACTED], who received accolades at MLDDA conference, provided the report below and is on it.

More to follow.

Again, this is a non-federal levee that has had issues in the past.

V/r,

Tony

Building Strong!

Colonel Anthony J. Hofmann, PMP
Commander, Kansas City District
U.S. Army Corps of Engineers

Office: (816) 389-3202
Fax: (816) 389-2027
<http://www.nwk.usace.army.mil/>

-----Original Message-----

From: [REDACTED] NWK
Sent: Monday, June 13, 2011 12:50 PM
To: Hofmann, Anthony J COL NWK; DLL-NWK-CMT; DLL-NWK-EOC-BC; CENWD-EOC NWD
Subject: CCIR - Reported Breach at Union Township (UNCLASSIFIED)
Importance: High

Sir - per [REDACTED] email Union Township has breached not known if overtopped. Will provide pertinent when I return from lunch.

From: [REDACTED] NWK
To: [REDACTED] NWK; [REDACTED] A NWK
Sent: Mon Jun 13 10:42:25 2011
Subject: Reported Breach at Union Township (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Was notified by Sponsor president about 30 minutes ago that non-Federal levee unit Union Township has suffered a breach downstream of COE landward setback. Sponsor requested permission to breach levee at lower to prevent further damage and provide relief to temporary levee on high shelf. I granted them permission to do so. Will provide more details as they become available.

Glasgow Project Office

Office: [REDACTED]

Cell: [REDACTED]

Classification: UNCLASSIFIED
Caveats: NONE

Classification: UNCLASSIFIED
Caveats: NONE

~~Farmer, Monique L NWO~~

From: Farhat, Jody S NWD02
Sent: Monday, June 13, 2011 2:13 PM
To: Farmer, Monique L NWO
Subject: RE: Reporter query (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

This is what I've been telling folks:

The planned peak releases from the 5 lowest mainstem dams remains at 150,000 cfs based on the best information available. At this time we don't anticipate going any higher, but if the upper basin continues to be hit with much above normal rainfall, that number could potentially increase. The dams can safely pass much higher releases, but we have no intention of utilizing the full capacity. For example, the spillway at Gavins Point can pass 345,000 cfs.

-----Original Message-----

From: Farmer, Monique L NWO
Sent: Monday, June 13, 2011 2:07 PM
To: Farhat, Jody S NWD02
Subject: Reporter query (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Jody:

Please assist me with response

Jeff:

Currently, we do not have plans to increase releases beyond the 150,000 cfs out of Gavins Point Dam. The maximum cfs out of Gavins depends on a number of factors including (what factors?). The dam is designed to handle releases of 345,000 cfs out of the spillway, 60,000 cfs out of the outlet works and 36,000 cfs out of the powerhouse. Just want to stress again that our current release plans are not projected to exceed 150,000 cfs.

Thanks Jeff.

-----Original Message-----

From: JEFF DEYOUNG [<mailto:deyoungster4@msn.com>]
Sent: Monday, June 13, 2011 10:56 AM
To: Farmer, Monique L NWO
Subject: RE: Your question (UNCLASSIFIED)

Thanks, Monique.

Had another question - a friend of mine said she heard on CSPAN some talk about possibly much more water being released out of the dams, possibly 500,000 cfs. I am guessing this is just some more misinformation, but guess I wanted to check and to see what the maximum cfs capacity is at Gavins Point.

> Subject: Your question (UNCLASSIFIED)
> Date: Sat, 11 Jun 2011 15:05:58 -0500
> From: Monique.L.Farmer@usace.army.mil
> To: deyoungster4@msn.com
>
> Classification: UNCLASSIFIED
> Caveats: NONE
>
> Jeff:
>
> We have not yet estimated the amount of farmland that may flood.
> Following a flood event, we typically develop statistics that
> determine the amount of flood damages prevented by our flood risk reduction measures.
>
> V r,
>
> Monique Farmer
> Media Relations Team Lead/Missouri River Joint Information Center U.S.
> Army Corps of Engineers Omaha District
> (402) 996-3877
> (402) 779-1460
>
> Find us on the Social media sites below:
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> www.youtube.com/OmahaUSACE
>
>
>
>
> Classification: UNCLASSIFIED
> Caveats: NONE
>
>

Classification: UNCLASSIFIED
Caveats: NONE

Classification: UNCLASSIFIED
Caveats: NONE

[REDACTED] NWO

From: Farhat, Jody S NWD02
Sent: Monday, June 13, 2011 2:36 PM
To: McMahon, John R BG NWD; Ruch, Robert J COL NWO; Anderson, G Witt NWD; [REDACTED]
[REDACTED] M NWO; Bertino, John J Jr NWO; [REDACTED] NWO
Cc: [REDACTED] NWO; [REDACTED] NWO; [REDACTED] NWO; [REDACTED] NWO;
[REDACTED] NWO; [REDACTED] NWO; CENWD-EOC NWD; [REDACTED]
NWD; [REDACTED] M NWD02 ([REDACTED]@usace.army.mil); [REDACTED] NWD02;
[REDACTED] NWD02; [REDACTED] NWD02; [REDACTED] NWD02
Subject: FW: Coordination with WAPA (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Sirs:

[REDACTED] Mike Swenson and I participated in another conference call with WAPA officials (Bob Harris, Jody Sundsted, and Pete Kinney) this morning. We emphasized the dam safety concerns with regard to the operation of the outlet tunnels and spillways in the current manner.

WAPA will redouble their efforts to reduce fluctuations at the mainstem dams through the use of coal and gas generating units and by making adjustments to the wind power in the balancing area. They had already made adjustments to a portion of the wind generated by Basin Electric, but will now make adjustments to the remaining wind as needed. To date, they have resisted this step since they have to pay liquidated damages for the remaining wind energy if it is taken off-line.

They may also ask us to increase spills at the projects like we did over the past weekend. It may be cheaper for them to take the hydro off-line and lose that revenue source, than to pay the liquidated damages associated with the wind contracts.

We emphasized that our primary concerns were to minimize fluctuations in releases through the outlet tunnels and spillways, and to meet the daily targets in releases/generation with limited hourly fluctuations to minimize impacts to downstream locations.

We made it clear that decisions at this time cannot be made based on economics and that the current operation of the outlet tunnels and spillways is a dam safety issue.

VR,
Jody

Jody Farhat, P.E.
Chief, Missouri River Basin Water Management

jody.s.farhat@usace.army.mil
Office: 402-996-3840
Cell: 402-350-1417
Home: 402-551-6013

Classification: UNCLASSIFIED
Caveats: NONE

[REDACTED] NWO

From: Farhat, Jody S NWD02
Sent: Monday, June 13, 2011 3:44 PM
To: [REDACTED] NWO
Cc: [REDACTED] NWO
Subject: RE: Omaha District Congressional Liaison transition (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

[REDACTED] and [REDACTED],

Just FYI, we haven't been using the talking point about needing to release 85-90 kcfs even if we had had perfect foresight. The numbers there are very rough and subject to a lot of judgment. It's okay to have used it in this response, but in the future it would be best to use some of the other talking points. I'd be happy to help you with those as needed.

Thanks,

Jody

p.s. [REDACTED] no baby yet? What are you waiting for!

-----Original Message-----

From: DiLuccia, Janelle (Johnson) [mailto:Janelle_DiLuccia@johnson.senate.gov]
Sent: Monday, June 13, 2011 3:27 PM
To: [REDACTED] NWO
Cc: [REDACTED] NWO; Farhat, Jody S NWD02
Subject: RE: Omaha District Congressional Liaison transition

This is very helpful - thank you.

Janelle

-----Original Message-----

From: Eckert Uptmor, Kayla A NWO [mailto:Kayla.A.Eckert@usace.army.mil]
Sent: Monday, June 13, 2011 3:48 PM
To: DiLuccia, Janelle (Johnson)
Cc: Johnson, Greg NWO; Farhat, Jody S NWD02
Subject: RE: Omaha District Congressional Liaison transition

Hi Janelle,

Archived daily precipitation information is available on the NWS website at <http://water.weather.gov/precip/>

Another good source of information is the many press releases Water Management and the Omaha District have issued since the first of May. They're available on the website and will provide information at key points in time when operation of the system was changing due to weather conditions.
<http://www.nwo.usace.army.mil>

You are correct that the mainstem reservoirs all had their Exclusive Flood Control pools evacuated. We can pull the archived releases if you want, but if it's the full analysis, it typically occurs during the post flood report.

The short of it is that even if we had known this historic runoff was coming, record releases from all 6 mainstem dams would have been necessary to handle the runoff. Based on our forecasted 44 MAF of runoff from March through July, we would likely have needed releases in the range of 85,000 to 90,000 cfs from the lower 5 dams for the period of 1 March through this fall.

Although significantly lower than the planned release, these would be far above previous records and they would have needed to begin on 1 March when the river was still ice covered. Had we waited until the ice went off the river and the plains snowpack melted, releases of over 100,000 cfs would certainly have been required.

In reality, we had no basis on which to increase flows to historic levels until the extraordinary rainfall event which resulted in a record runoff in May.

Again, this is just a quick synopsis. A more detailed review will be conducted following the flooding this year to assess the operation of the reservoir system, its effects, and to learn where improvements or adjustments might be warranted. Whether or not future studies lead to changes in the operation of the reservoir system or land use policies remains to be seen. Keep in mind that the 14 year process which led to the Master Manual is what dictates how we operate the system.

Let me know if you have any questions or if this suffices for now.

Thanks,
[REDACTED]

-----Original Message-----

From: DiLuccia, Janelle (Johnson)

[mailto:Janelle_DiLuccia@johnson.senate.gov]

Sent: Monday, June 13, 2011 2:30 PM

To: [REDACTED] A NWO

Cc: [REDACTED] NWO

Subject: RE: Omaha District Congressional Liaison transition

Hi [REDACTED],

Thanks for all the information that the Corps has provided on this year's flood fight. I'm hoping you can also provide a bit of historical context for the current situation so that I can ensure my boss has the most accurate information possible.

In listening to the regular MRJIC calls, there have been several mentions of the full flood storage capacity being available at the start of the runoff season this year. Could you elaborate about that timing and the amount of flood storage that was available prior to the May precipitation? I was looking at the Missouri River Mainstem Reservoir 2011 Flood Regulation presentation

(<http://www.nwd-mr.usace.army.mil/rcc/reports/pdfs/MissouriRiverFlooding6Jun2011.pdf>); am I correct in understanding that the mainstem reservoirs had all of their

Exclusive Flood Control as well as the Annual Flood Control & Multiple Use storage space available earlier this year? Also, how do the reservoir levels at the start of the spring season compare to previous years?

I know you are incredibly busy, but any contextual information you could provide would be greatly appreciated. Additionally, if there are any additional background resources (additional reports or presentations) that would provide useful context, I'd welcome them.

Thanks,

Janelle
202-224-1633 (direct)

Janelle DiLuccia
Legislative Assistant
Office of Senator Tim Johnson
136 Hart Senate Office Building
Washington, DC 20510
202-224-5842
janelle_diluccia@johnson.senate.gov

-----Original Message-----

From: [REDACTED] NWO [mailto:[REDACTED]@usace.army.mil]
Sent: Friday, June 10, 2011 6:47 PM
To: alan.feyerherm@mail.house.gov; Andera Travnicek (ND Governors Office); Ann Thomas Johnston (NE Terry); Anne Thimsen (SD Noem); Ansley Mick (NE Smith); Ready, Benjamin (Thune); Brad Schweer (Terry); Clifford, Brian (Barrasso); Brian Dunnigan (NE Governor's Office); Dugan, Brianne (Baucus); Tomassi, Chris (Enzi); English, Dan (Thune); Podany, Darrell (Johanns); Williamson, Dayle (Ben Nelson); Dean.Mathisen@mail.house.gov; deb.vanmatre@mail.house.gov; Edwin Elfmann (IA King); Eric Bierwagen (MT Rehberg); Lutt, Erick (Ben Nelson); Nelson, Erik (Johnson); DiLuccia, Janelle (Johnson); Judith Roberts (ND Berg); Howard, Kate (Ben Nelson); Kevin Caulfield (ND Berg); Wallin, Kristi (Barrasso); lindsey.christman@mail.house.gov; Louis.pofahl@mail.house.gov; Boeckel, Marty (Conrad); Mary.Hollatz@mail.house.gov; Johner, Nancy (Johanns); Vander Plaats, Nathan(Harkin); Lehman, Patrick (Johanns); Leahy, Patrick (NelBe); pete.Obermueller@mail.house.gov; Erdman, Phil (Johanns); Renee Latterell (SD Noem); Bailey, Robin (Enzi); Keys, Ross (Conrad); Ryan Broker ; ryan.mcconnaughey@mail.house.gov; Schwietert, David (Thune); Goettle, Shane (Hoeven); Boysen, Sharon (Johnson); Kuntz, Sherry (Grassley); Gray, Spencer (Baucus); Suzanne.vennis@mail.house.gov; Ted Stopulos; Thomas "Tucker" Fagan (WY Lummis); Todd Sando (ND State Water Commission); Tom Nelson (ND Berg); Sutton, Tracee (Conrad); WY Governor's Office; Nelson, Zach (Ben Nelson)
Cc: [REDACTED] NWO; [REDACTED] NWO
Subject: Omaha District Congressional Liaison transition
Importance: High

All:

Over Memorial Day Weekend when the Omaha District Emergency Operations Center (EOC) went into 24 hour operations, I was immediately tasked with setting up the Missouri River Joint Information Center with Erik Blechinger. Once he and I got it up and running and staffed, I managed to transition myself out back to my day job as Chief of Planning and Omaha District Congressional Liaison. I transitioned out of the MRJIC quickly, mainly because I needed to prepare for the final transition of my Planning Chief and Congressional Liaison responsibilities to other folks as I prepare for maternity leave. I received and answered many emails for all of you through the MRJIC, but ask that you would forward all your requests to me directly rather than through the MRJIC as my Omaha District Congressional Liaison role has ultimate responsibility to you. When they go to the MRJIC now, they essentially are forwarded to me. I can respond more quickly to you by just having you contact me directly.

I am now 7 days out from my delivery date of 18 Jun. My plan is to be on maternity leave through early October. Due to the circumstances at hand in the basin, I plan to work until

delivering. I am copying [REDACTED] on all emails as he will handle all Omaha District Congressional needs in my absence. I will notify you when I am out of the office for leave, but in advance, his contact information is: [REDACTED]@usace.army.mil; [REDACTED] (office); 402-[REDACTED] (cel). Also, in my absence you can always contact my immediate supervisor, [REDACTED] who is the District Deputy Engineer at [REDACTED] or T [REDACTED]@usace.army.mil.

It is a pleasure working with all of you throughout the basin. Again, I will notify you when my maternity leave starts. Until then, please contact me directly with any needs at the contacts listed below.

Best,

[REDACTED]
[REDACTED]
[REDACTED]
US Army Corps of Engineers
Omaha District
1616 Capitol Avenue
Omaha, NE 68102-4901
402-[REDACTED]
402-[REDACTED] (c)

Classification: UNCLASSIFIED
Caveats: NONE

NWO

From: Farhat, Jody S NWD02
Sent: Monday, June 13, 2011 3:46 PM
To: Anderson, G Witt NWD
Subject: RE: Rework of language about possibly re-evaluating the Master Manual (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

I don't care for the part about "this event will be assessed and taken into account in future operations..." Assessed, yes, but taken into account sounds like we will start managing to handle this type of event.

Jody

-----Original Message-----

From: Anderson, G Witt NWD
Sent: Monday, June 13, 2011 3:42 PM
To: Farhat, Jody S NWD02
Subject: FW: Rework of language about possibly re-evaluating the Master Manual (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Jody, did you see this and are you OK with it?

-----Original Message-----

From: [REDACTED] NWD
Sent: Monday, June 13, 2011 12:52 PM
To: Anderson, G Witt NWD
Cc: Blechinger, Erik T NWO
Subject: Rework of language about possibly re-evaluating the Master Manual (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Witt,

Per our discussions, please let me know what you think and when we can go final.

v/r, [REDACTED]

"The reservoir system has been operated in accordance with the Master Manual. However, 2011 will be a new data point in the history of the Missouri River Basin, both in terms of hydrology and flood plain impacts, so this event will certainly be assessed and taken into account in future operations and overall system management. The Corps will review the flooding this year to determine the flood's effects and learn where improvements or adjustments might be warranted. Whether or not future studies lead to changes in the operation of the reservoir system is yet to be determined."

[REDACTED]
[REDACTED], Northwestern Division,
Portland OR [REDACTED] (Attorney Client and/or Attorney Work Product-- DO NOT RELEASE UNDER
FOIA OR OUTSIDE USACE)

NWO

From: Farhat, Jody S NWD02
Sent: Monday, June 13, 2011 4:31 PM
To: Farhat, Jody S NWD02; McMahon, John R BG NWD; Tipton, Robert A Col NWD; Anderson, G Witt NWD; Ruch, Robert J COL NWO; Hofmann, Anthony J COL NWK; Blechinger, Erik T NWO; [REDACTED] NWD; [REDACTED] NWK; Blair, Amy E NWK; Williamson, Eileen L NWO; Farmer, Monique L NWO; Johnston, Paul T HQ@ NWO; [REDACTED] NWD; [REDACTED] NWD; [REDACTED] NWD02; Love, Raymond E MAJ NWD; [REDACTED] NWO; [REDACTED] NWO; [REDACTED] NWO; [REDACTED] SAW
Cc: [REDACTED] NWD02; [REDACTED] NWD02; [REDACTED] NWO; [REDACTED] NWD02; [REDACTED] C NWD02; [REDACTED] NWD02; [REDACTED] NWD02; [REDACTED] NWO; [REDACTED] M NWD02
Subject: RE: WM Talking Points for 13 June stakeholder call (UNCLASSIFIED)
Attachments: 2011 Missouri River Flood Talking Points 13 Jun 2011.docx

Classification: UNCLASSIFIED
Caveats: NONE

-----Original Message-----

From: Farhat, Jody S NWD02
Sent: Sunday, June 12, 2011 3:55 PM
To: Farhat, Jody S NWD02; McMahon, John R BG NWD; Tipton, Robert A Col NWD; Anderson, G Witt NWD; Ruch, Robert J COL NWO; Hofmann, Anthony J COL NWK; Blechinger, Erik T NWO; [REDACTED] NWD; [REDACTED] NWK; Blair, Amy E NWK; Williamson, Eileen L NWO; Farmer, Monique L NWO; Johnston, Paul T HQ@ NWO; [REDACTED] NWD; [REDACTED] J NWD; [REDACTED] NWD; [REDACTED] NWD02; [REDACTED] NWD; [REDACTED] NWO; [REDACTED] SAW
Cc: [REDACTED] NWD02; [REDACTED] NWD02; [REDACTED] NWO; [REDACTED] NWD02; [REDACTED] NWD02; [REDACTED] NWD02; [REDACTED] NWD02; [REDACTED] NWO; [REDACTED] NWD02
Subject: RE: WM Talking Points for 12 June stakeholder call (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

FYI

Classification: UNCLASSIFIED
Caveats: NONE

Classification: UNCLASSIFIED
Caveats: NONE

2011 Missouri River Flood Talking Points
Missouri River Water Management
13 June 2011

We posted the updated reservoir forecast to the web this afternoon. The only adjustment in releases was at Fort Randall where we adjusted release in consideration of the Gavins Point pool level. The Gavins Point pool is declining as expected so we were able to begin coming up on Fort Randall releases albeit a little slower than previously forecasted.

We will continue to make these small intrasystem adjustments throughout the summer to best balance the reservoir levels and releases. The anticipated peak releases remain the same: 65,000 cfs at Fort Peck, and 150,000 cfs at the lower 5 dams: Garrison, Oahe, Big Bend, Fort Randall and Gavins Point.

The release schedule for the 6 dams are as follows:

- Fort Peck –Releases were increase to 65,000 cfs today and will be held at that level.
- Garrison –140,000 cfs today, holding at that level through Wednesday, increasing to 145,000 cfs on Thursday and reaching the peak release of 150,000 cfs on Friday.
- Oahe and Big Bend –Releases will remain at the peak level of 150,000 cfs.
- Fort Randall – 140,000 cfs today and tomorrow, gradually stepping up to the peak release of approximately 148,000 cfs by the middle of next week.
- Gavins Point – 145,000 cfs today, then stepping up to the peak release of 150,000 cfs on Tuesday.

Peak releases are expected to continue well into August.

The forecast is based on best available information at this time; actual releases are based on conditions on the ground and are subject to change

NWO

From: Farhat, Jody S NWD02
Sent: Monday, June 13, 2011 6:17 PM
To: Farmer, Monique L NWO
Subject: RE: Request for reponse (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Monique - we are working on a response to State Rep Porter's letter, which is quoted below. I haven't seen a letter from Hoeven - don't know if Mr Wenzel meant the Porter letter or if there's a letter I haven't seen. The response should be ready in a couple days. The general process we follow is once the letter is signed and sent out, it's out of our control and the recipient can share it with whomever they choose, but we don't provide copies of our responses to others. Of course, they can always make a formal request or FOIA it, but it's not like we post copies of our letters on the web.

Jody

-----Original Message-----

From: Farmer, Monique L NWO
Sent: Monday, June 13, 2011 5:47 PM
To: Farhat, Jody S NWD02
Subject: Request for reponse (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Jody:

I received a query from Dale Wetzel (AP reporter in ND), and he wanted a response to Governor Hoeven's letter. Not sure if someone is working a response to this so far. See letter below...

June 9, 2011

Colonel Robert Ruch
Commander
Omaha District, Northwestern Division
United States Army Corps of Engineers
1616 Capitol Avenue, Suite 365
Omaha, NE 68102-4901

Dear Colonel Ruch:

This letter is a request for information relating to the current Missouri River flooding in Mandan/Bismarck, North Dakota. Specifically, I would like the following information:

- Why did the United States Army Corps of Engineers stop releasing water at an increased rate around the middle of March 2011 and not increase releases from the Garrison Dam until May 6th 2011, especially given the fact that the reservoirs was full and the snow pack was at least 140% of normal?
- What role, if any, did the snowpack in the upper portion of the Missouri River Basin play in the management of the water releases from the Garrison Dam?

- Given the fact that the reservoir system was full in 2010, why weren't the releases timed to prevent the catastrophic event that we are currently experiencing?
- Please provide any records regarding the decision to delay Garrison Dam releases and any internal memos/emails discussing the decisions to delay the releases and slow the releases in 2011.
- What part did the nesting season of the piping plover play in any water management decisions?

Thank you for your responses to this inquiry.

Sincerely,

Todd Porter
State Representative

Cc: Senator John Hoeven
Senator Kent Conrad
Congressman Rick Berg

Monique Farmer
Media Relations Team Lead/Missouri River Joint Information Center U.S. Army Corps of
Engineers Omaha District
(402) 996-3877
(402) 779-1460

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www.youtube.com/OmahaUSACE

Classification: UNCLASSIFIED
Caveats: NONE

Classification: UNCLASSIFIED
Caveats: NONE

NWO

From: Farhat, Jody S NWD02
Sent: Monday, June 13, 2011 6:48 PM
To: Farmer, Monique L NWO
Subject: RE: Request for reponse (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Monique, I'm working on the response - using the talking points that have already been developed and distributed. I've sent a draft letter out for review; once it's finalized I'll send it to you and you can dissect and distribute the responses as needed. You're right, we need to have these in our list of Q&A's even if we don't send anyone a copy of the letter.

Thanks,
Jody

-----Original Message-----

From: Farmer, Monique L NWO
Sent: Monday, June 13, 2011 6:28 PM
To: Farhat, Jody S NWD02
Subject: RE: Request for reponse (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Jody:

I can share the process, but we should prepare to answer these questions either way as they may come up on the conference call. I could prepare responses and run them by you, but we want to be consistent with the letter. Who is working that response?

Monique

-----Original Message-----

From: Farhat, Jody S NWD02
Sent: Monday, June 13, 2011 6:17 PM
To: Farmer, Monique L NWO
Subject: RE: Request for reponse (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Monique - we are working on a response to State Rep Porter's letter, which is quoted below. I haven't seen a letter from Hoeven - don't know if Mr Wenzel meant the Porter letter or if there's a letter I haven't seen. The response should be ready in a couple days. The general process we follow is once the letter is signed and sent out, it's out of our control and the recipient can share it with whomever they choose, but we don't provide copies of our responses to others. Of course, they can always make a formal request or FOIA it, but it's not like we post copies of our letters on the web.

Jody

-----Original Message-----

From: Farmer, Monique L NWO

Sent: Monday, June 13, 2011 5:47 PM
To: Farhat, Jody S NWD02
Subject: Request for reponse (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Jody:

I received a query from Dale Wetzel (AP reporter in ND), and he wanted a response to Governor Hoeven's letter. Not sure if someone is working a response to this so far. See letter below...

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Commander
Omaha District, Northwestern Division
United States Army Corps of Engineers
1616 Capitol Avenue, Suite 365
Omaha, NE 68102-4901

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- What part did the nesting season of the piping plover play in any water management decisions?

Thank you for your responses to this inquiry.

Sincerely,

Todd Porter
State Representative

Cc: Senator John Hoeven
Senator Kent Conrad
Congressman Rick Berg

Monique Farmer
Media Relations Team Lead/Missouri River Joint Information Center U.S. Army Corps of Engineers Omaha District
(402) 996-3877

(402) 779-1460

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Classification: UNCLASSIFIED

Caveats: NONE

Classification: UNCLASSIFIED

Caveats: NONE

Classification: UNCLASSIFIED

Caveats: NONE

Classification: UNCLASSIFIED

Caveats: NONE

From: Farhat, Jody S NWD02
Sent: Monday, June 13, 2011 7:03 PM
To: Blair, Amy E NWK
Subject: RE: Missouri River Reservoir Releases (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Amy, here's my response:

Flooding throughout the basin has been significantly reduced since the mainstem reservoir system was built, however the dams do not stop floods, rather they allow flood waters to be captured and then releases in a controlled manner. In general, the further downstream a community is from a dam, the larger the local intervening area with uncontrolled inflows and therefore the less flood risk reduction benefit is provided by the dam.

We keep statistics on the flood damages prevented by the mainstem reservoirs, tributary reservoirs and levee systems. Historically, the bulk of the flood damages prevented are the reach below Gavins Point dam. This is due to the number of population centers along the lower river compared to the upper basin - in essence, there's more to protect in the lower basin.

If you'd like information on damages prevented over time to the various reaches, we can supply that. As for historic gage data showing how frequently various locations experience flooding, the USGS is the official source of historic stream flow records and would be the best source for that information.

Thanks,
Jody

-----Original Message-----

From: Blair, Amy E NWK
Sent: Monday, June 13, 2011 1:21 PM
To: Farhat, Jody S NWD02
Subject: FW: Missouri River Reservoir Releases (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

And his more detailed question emerges..

-----Original Message-----

From: Matousek, Mike [<mailto:Mike.Matousek@mail.house.gov>]
Sent: Monday, June 13, 2011 1:19 PM
To: Blair, Amy E NWK
Subject: RE: Missouri River Reservoir Releases (UNCLASSIFIED)

Amy,

I can't remember where we left off on this, but does the Corps keep flooding statistics? Meaning, would the Corps have data available to show how many times locations in the lower river flood vs. locations in the upper river flood?

The statement has been made that upper river locations never flood because when it gets to that point the Corps releases more water, thus only affecting the lower river folks.

Mike

-----Original Message-----

From: Blair, Amy E NWK [<mailto:Amy.E.Blair@usace.army.mil>]
Sent: Monday, June 06, 2011 7:53 PM
To: Matousek, Mike
Subject: RE: Missouri River Reservoir Releases (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Can you be a little bit more specific as to what you mean?

-----Original Message-----

From: Matousek, Mike [<mailto:Mike.Matousek@mail.house.gov>]
Sent: Monday, June 06, 2011 6:51 PM
To: Blair, Amy E NWK
Subject: Re: Missouri River Reservoir Releases

Thanks amy. Does the corps have statistics on upper river flooding vs lower river flooding?

Sent using BlackBerry

----- Original Message -----

From: Blair, Amy E NWK [<mailto:Amy.E.Blair@usace.army.mil>]
Sent: Monday, June 06, 2011 07:31 PM
To: Matousek, Mike
Cc: [REDACTED] <[\[REDACTED\]@usace.army.mil](mailto:[REDACTED]@usace.army.mil)>
Subject: Missouri River Reservoir Releases

Mike, I am not sure if you are participating in the CODEL calls at 6 pm CDT, but on the call tonight someone asked to what degree we are operating for fish and wildlife. Jodi Farhat of RCC stated that since mid-August 2010 all releases have been based solely on flood control.

I thought this piece of info would be good for you to have in mind.

Amy E. Blair
USACE-Kansas City District
816.728.3651

Message sent via my BlackBerry Wireless Device

Classification: UNCLASSIFIED
Caveats: NONE

Classification: UNCLASSIFIED
Caveats: NONE

[REDACTED] NWO

From: Farhat, Jody S NWD02
Sent: Tuesday, June 14, 2011 11:06 AM
To: [REDACTED] NWK; [REDACTED] NWD02
Cc: [REDACTED] NWK; [REDACTED] NWK
Subject: RE: Lower Kansas River Lake Releases (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Thanks, Eric. We appreciate the update.

VR,
Jody

-----Original Message-----

From: [REDACTED] NWK
Sent: Tuesday, June 14, 2011 10:28 AM
To: [REDACTED] NWD02; Farhat, Jody S NWD02
Cc: [REDACTED] NWK; [REDACTED] NWK
Subject: Lower Kansas River Lake Releases (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

14 June 2011

Since the Kansas River lakes' flood pool evacuation releases are something we are monitoring closely and coordinating with the MRBWM, we felt it appropriate to track the status in a daily email.

No changes in Kansas River lake releases from yesterday (see below).

[REDACTED]
[REDACTED] NWD02
Chief, Water Management Section
USACE - Kansas City District
[REDACTED]

-----Original Message-----

From: [REDACTED] NWK
Sent: Monday, June 13, 2011 2:05 PM
To: Hofmann, Anthony J COL NWK; [REDACTED] NWK; Farhat, Jody S NWD02
Cc: [REDACTED] NWD02; [REDACTED] NWK; [REDACTED] NWK
Subject: RE: Deviation Modification for Lower Kansas Projects and Truman (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

We have resumed flood pool evacuation releases from the Kansas River Lakes based on the delayed arrival of the peak Gavins Point releases, as discussed below and in a conversation this morning with Kevin Grode. Milford is now releasing 9,000 cfs and projected to reach multipurpose pool in 14 days. We are limiting releases to 9,000 cfs to reduce the risk of outlet channel damage. Tuttle Creek is now releasing 8,000 cfs and projected to reach multipurpose pool in 10 days. Perry is releasing 5,000 cfs and projected to reach

multipurpose pool in 7 days. Clinton is near multipurpose at this time and will remain at a low flow release of 21 cfs.

We will continue these operations in close coordination with the MRBWM - Reservoir Control Center. We are also closely monitoring the upstream gages to track the progression of the Gavins Point release peak flows.

[REDACTED]
[REDACTED] Water Management Section
USACE - Kansas City District
8 [REDACTED]

-----Original Message-----

From: [REDACTED] NWK
Sent: Monday, June 13, 2011 9:14 AM
To: Farhat, Jody S NWD02; Hofmann, Anthony J COL NWK; [REDACTED] NWK; [REDACTED] NWK; [REDACTED] NWK; McMahon, John R BG NWD; Anderson, G Witt NWD; Blechinger, Erik T NWO; Tipton, Robert A Col NWD; [REDACTED] NWD
Cc: [REDACTED] NWD02; [REDACTED] NWD02; [REDACTED] NWK; [REDACTED] NWK
Subject: RE: Deviation Modification for Lower Kansas Projects and Truman (UNCLASSIFIED)

Jody, based on our conversation this morning we now understand that increased MR flow travel times to Rulo and south will be delayed due to overtopping of embankments north of Omaha. I will have Eric S. and Ed coordinate with Kevin the expected travel times to determine how much additional time we have to draw down Milford - we will resume releases today. Please let us know of any changes to MR travel times so we have time to adjust on the Kansas.

Appreciate all the good work you are doing!

Thanks, r

-----Original Message-----

From: Farhat, Jody S NWD02
Sent: Sunday, June 12, 2011 5:51 PM
To: Hofmann, Anthony J COL NWK; [REDACTED] NWK; [REDACTED] G NWK; [REDACTED] NWK; [REDACTED] NWK; McMahon, John R BG NWD; Anderson, G Witt NWD; Blechinger, Erik T NWO; Tipton, Robert A Col NWD; [REDACTED] A NWD
Cc: Farhat, Jody S NWD02; [REDACTED] NWD02; [REDACTED] NWD02
Subject: FW: Deviation Modification for Lower Kansas Projects and Truman (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

COL Hofmann,

Sir, in response to an issue raised on the NWK MCT call this afternoon, I offer the following information:

My office has been coordinating with the NWK Water Management office regarding evacuation of the tributary reservoirs prior to peak stages reaching the Kansas City area. On May 29th we received the attached deviation request, which was approved via email almost immediately and followed by a formal letter on May 31. When we learned last weekend that the district was cutting back releases from Milford and other tributary reservoirs in response to the increasing flows on the Missouri River, [REDACTED] sent the email below to [REDACTED] suggesting that the District continue to evacuate storage until the stages at Kansas City and/or Waverly reach the lower end of the published stage range with 150,000 cfs release from

Gavins. Apparently this was discussed within NWK and the decision was made to reduce outflows to minimum release requirements.

It is still my position that the tributary reservoirs should be evacuated prior to peak stages being reached in the reach below Kansas City. Personally, I believe that the 29 May deviation request was sufficient to allow continued evacuation, but if the district would like to request a more specific deviation request, I would certainly approve it immediately.

The daily bulletin indicates 200,000 acre-feet of water remains to be evacuated from Milford. Based on discussions with Hydrologic Engineering in the Omaha District, they expect it will take a week or more for all the overbank storage between Gavins Point and Omaha to fill. Extend that philosophy to the reach from Omaha to Kansas City, and it appears there are several weeks remaining before peak stages from the 150,000 cfs release reach Kansas City.

I strongly encourage Kansas City District to resume evacuation of all tributary storage unless local conditions dictate another strategy.

VR,
Jody

-----Original Message-----

From: [REDACTED] NWD02
Sent: Sunday, June 12, 2011 4:12 PM
To: Farhat, Jody S NWD02
Subject: FW: Deviation Modification for Lower Kansas Projects and Truman (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Jody,

The attached is the deviation we approved. Below is what I sent to [REDACTED] last Sunday. When I spoke with him last Monday he had indicated that he had spoken with R [REDACTED] and that they had decided to stick with their original plan.

- [REDACTED]

[REDACTED]
Missouri River Basin Water Management,
Northwestern Division, USACE
402. [REDACTED]
402. [REDACTED] (fax)

-----Original Message-----

From: [REDACTED] NWD02
Sent: Sunday, June 05, 2011 6:00 PM
To: [REDACTED] D NWK
Subject: Deviation Modification for Lower Kansas Projects and Truman (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

[REDACTED]

Just throwing some words out here for you to consider.

Reference attached deviation request from May 29, 2011 - Deviation Request from Missouri River Control Points).

The extreme and historical releases being made from Gavins Point are directly related to the reservoir conditions at the upper mainstem projects. All three upper projects are currently well into their exclusive flood control pools and are expected to remain in those zones, at least until August, and perhaps later. Currently, Fort Peck is in its surcharge zone and Garrison is within inches of being in its surcharge zone.

Given the extreme flooding conditions in the mainstem system, it is necessary that tributary reservoir regulation also be considered in order to maintain proper risk management. Attached is a planning tool, which outlines a likely range of flows of stages with a Gavins Point release of 150 kcfs, that was collaboratively developed by MRBWM, NWO, NWK and the MBRFC (National Weather Service). This planning tool is being used to assist with risk reduction measures along the Missouri River from Gavins Point to the mouth.

<http://www.nwo.usace.army.mil/html/op-e/maps/WaterMgt/Below%20Gavins%20-%20Range%20of%20Flows%20and%20Stages%20-%20Final.pdf>

Kansas City - 220 kcfs to 350 kcfs (30 ft to 39 ft) Waverly - 230 kcfs to 370 kcfs (27 ft to 31 ft) Boonville - 260 kcfs to 420 kcfs (27 ft to 33 ft) Hermann - 300 kcfs to 470 kcfs (27 ft to 33 ft)

Then reference the Corps' FUI stage forecast for the next 2 weeks:
<http://www.nwd-mr.usace.army.mil/rcc/reports/internal/showrep.cgi?3STAG1>

Since the NWS forecast only goes out 5 days, it isn't going to assist with this due to travel time from the projects to each of the Missouri River stations. We could use our FUI forecast or the NWS does produce a monthly forecast every Wednesday. Might be able to get them to produce it Monday and Friday also.

For the next 2 weeks the Missouri River stations, per this morning's FUI:

- ... Kansas City (MKCF) stage forecast does not exceed 28 feet.
- ... Waverly (WVMF) stage forecast does not exceed 26 feet.
- ... Boonville (BNMF) stage forecast does not exceed 24 feet.
- ... Hermann (HEMF) stage forecast does not exceed 23.5 feet.

Since all stations are below their respective lower end of the likely range, then releases from flood control storage zones can be made in such a manner that the total flood control release does not exceed the lower stage level. In this case, it would be Waverly (26 feet to 27 feet) that would be the adjusted control point. Per the latest rating curve, there's about an 18 kcfs difference between 26 and 27 feet at Waverly. Or we could use flows. Doesn't matter - 6 of one, half dozen of the other. However, it seems that the stage is driving factor, not the flow.

How flood control storage releases are made should be based on each project's current level of flood control storage as well as downstream constraints, such as Milford and Tuttle Creek. However, 3 weeks from now, it may be a different project. We'll have to work out how we're going to monitor/adjust through the period ... revisit every few days or after a major precipitation event ... it'll be tricky due to the travel time.

Talk to you at 8:30.

- [REDACTED]

[REDACTED]

[REDACTED]

Missouri River Basin Water Management,
Northwestern Division, USACE
402. [REDACTED]
402. [REDACTED] (fax)

Classification: UNCLASSIFIED
Caveats: NONE

Classification: UNCLASSIFIED
Caveats: NONE

Classification: UNCLASSIFIED
Caveats: NONE

Classification: UNCLASSIFIED
Caveats: NONE

Classification: UNCLASSIFIED
Caveats: NONE

Classification: UNCLASSIFIED
Caveats: NONE

[REDACTED] NWO

From: Farhat, Jody S NWD02
Sent: Tuesday, June 14, 2011 11:08 AM
To: [REDACTED] NWK
Subject: RE: End of Release Question (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

[REDACTED] - we don't have a specific plan yet, but it will most likely involve ramping down at a controlled rate over a week or two at a minimum.

Jody

-----Original Message-----

From: [REDACTED] NWK
Sent: Tuesday, June 14, 2011 10:28 AM
To: Farhat, Jody S NWD02
Subject: End of Release Question

Hi Jody,

I'm a hydrologist with Kansas City District currently serving as a liaison with FEMA region VII. The question has been posed of when this big release on Gavins are nearing the end (mid August or whenever), what will be the plan to wind down releases? Will it be a gradual transition to lesser release amounts, like we've been doing as we ramp up, or will it just be sharply reducing amounts over a shorter period of time until the minimum is achieved?

Thank you for your help,

[REDACTED]

[REDACTED]

U.S. Army Corps of Engineers

Kansas City District

[REDACTED]

FEMA office number - [REDACTED]

Classification: UNCLASSIFIED
Caveats: NONE

From: Farhat, Jody S NWD02
Sent: Tuesday, June 14, 2011 1:34 PM
To: Hofmann, Anthony J COL NWK
Cc: Anderson, G Witt NWD
Subject: RE: Upper basin summary (UNCLASSIFIED)
Attachments: Master Manual TPs.docx; 2011 Release Schedule TPs.docx

Classification: UNCLASSIFIED

Caveats: NONE

Sir - We've prepared a powerpoint that was used to prep MG's Grisoli and Temple for meetings with congressionals. It's posted on the Corps ftp site at

<ftp://ftp.usace.army.mil/pub/nwd/Mo%20River%20Flood%2012%20June/>

The other very useful pieces are the 2 attached on-page documents with the 2011 Release Schedule and the Master Manual talking points. The points covered on those two documents cover about 80 percent of the questions I field. The two were blended in the response to the Kansas City TV station I bcc'd you on the other night. I've copied it below for your use.

I would also offer that if the town hall is being done via teleconference, I'd be happy to participate and answer questions regarding system operations myself. COL Ruch and I have done many interviews together over the past couple weeks and it works well.

Let me know how I can be of assistance.

VR,
Jody

Copied from response to NBC Action News (Channel 41?) in Kansas City

One of the primary purposes of the Missouri River Mainstem Reservoir System is to reduce risks from floods to people, homes and businesses. Dams do not stop floods, rather they allow flood waters to be captured and then released in a controlled manner.

Releases from the Missouri River dams last fall and throughout the winter of 2010 were above normal in order to evacuate all flood waters from 2010, which was the third highest water year on record in the Missouri River Basin. On 28 January 2011, the full flood capacity of the Missouri River reservoir system was available for this year's runoff season. At that point, and all the way through the first of May, we had no reason to think we needed to increase releases beyond normal levels.

The flood of 2011 is a perfect storm of events: 1) heavy plains snow; 2) extraordinary rainfall in eastern Montana, Northern Wyoming and the western Dakota in one month (300% of normal in May); and 3) additional mountain snowpack accumulation to record levels in May and a delayed melt. Our reservoirs captured the record runoff in the basin during May. This provided people downstream time to prepare for higher than normal releases required to make room in the reservoirs for the record mountain snowpack, which still needed to enter the reservoirs.

The May 2011 runoff into the Missouri River Basin above Sioux City was 10.5 MAF - our normal May runoff based on historical records is 3.3 MAF. This was the second highest single month of runoff since 1898. The only higher was in 1952, a significant flood year, with 13.2 MAF in April. Not only is the May inflow unprecedented, but the yearly inflow is now forecast to be 54.6 MAF, more than twice the normal 24.8 MAF, and will be the highest ever.

The Missouri River Mainstem Reservoir System, which includes 6 dams, has been operated this year in accordance with the Master Manual. The Master Manual is a water control plan that helps guide how much water should be released, when, and for how long from the 6 reservoirs for the benefit of the entire Missouri River basin. The reservoir system is multiuse and is operated for 8 Congressionally-authorized purposes - it is not optimized for any one purpose. A primary purpose is flood risk management. The reservoirs were designed to capture spring and summer runoff and allow the Corps to manage releases throughout the year to accommodate the other 7 authorized purposes: navigation, irrigation, water supply, hydropower, fish and wildlife, recreation, and water quality.

The Corps revised the Master Manual in 2004 following a 14-year period of public involvement throughout the Missouri River Basin to gain input on how the System should be operated. Hundreds of alternatives were analyzed and considered during this process. The current Master Manual reflects the input from the public and Tribes throughout the entire Basin on how the reservoirs could best be operated to serve all the purposes for which they were authorized and constructed.

-----Original Message-----

From: Hofmann, Anthony J COL NWK
Sent: Tuesday, June 14, 2011 1:00 PM
To: Farhat, Jody S NWD02
Subject: Upper basin summary

Jody-

I was just invited to a "tele" Town Hall call-in with the state of Kansas (Cong Jenkins/Gov Brownback) scheduled for tomorrow.

In it, various federal agencies will field calls from constituents. One of the things they want agencies to provide is a summary of current conditions.

Wondering if you have any prepared statements already complete as to what has transpired in the upper basin and how conditions are what they are. I have PPT and can formulate my own if necessary, but figured I'd ask you. That will keep us all consistent as well.

Thanks in advance--if you don't already have I can piecemeal all information and talk it.

V/r,
COL H

Building Strong!

Colonel Anthony J. Hofmann, PMP
Commander, Kansas City District
U.S. Army Corps of Engineers

Office: (816) 389-3202
Fax: (816) 389-2027
<http://www.nwk.usace.army.mil/>

UPDATED: Master Manual and General Reservoir Ops Talking Points:

The Missouri River Main Stem Reservoir System, which includes 6 dams, is operated in accordance with the Master Manual. The Master Manual is a water control plan that helps guide how much water should be released, when, and for how long from the 6 reservoirs for the benefit of the entire Missouri River basin. The Master Manual hydrology (runoff volume, timing, shape of watersheds, etc) is based on over 100 years of historical runoff records (1898-2004).

The Corps revised the Master Manual in 2004 following a 14-year period of public involvement to balance all the competing uses for the Missouri River. Hundreds of alternatives were analyzed and considered during this process. The current Master Manual reflects the input from the public and Tribes throughout the entire Basin on how the reservoirs could best be operated to serve all the purposes for which they were authorized and constructed.

The reservoir system is designed to capture spring and summer runoff to provide flood risk reduction, and then allows the Corps to manage releases throughout the year to accommodate the other 7 authorized purposes: navigation, irrigation, water supply, hydropower, fish and wildlife, recreation, and water quality.

Each year an annual operating plan is developed to make necessary adjustments to our reservoir operations based on current and projected annual conditions, such as: amount of water received the previous year, rainfall events, plains snow pack, and mountain snow pack. This annual plan is circulated every fall and public meetings are held through the Missouri River Basin to gain inputs from the public and Tribes.

The actual operation of the System is reviewed and, if required, adjusted on a daily basis depending on current and forecasted conditions.

Answers to frequently asked Master Manual Questions:

Were releases held back earlier in the season to protect nesting least terns and piping plovers?

Answer: No operational decisions this year were driven by the needs of fish and wildlife or the Endangered Species Act – we have been operating solely for flood risk reduction. In fact, the Master Manual provides for a Spring Pulse to aid Endangered Species, which is an increase in flows during March and May, that we did not implement in 2011 because flows were already above normal and because the risk to potential flooding downstream of Gavins Point. Summer adjustments to operations to minimize flooding of protected tern and plover eggs and chicks did not take place this year due to high flow conditions.

Will this change the way the reservoir system is operated in future years?

Answer: The reservoir system has been operated in accordance with the Master Manual. However, 2011 will be a new data point in the history of the Missouri River Basin, both in terms of hydrology and flood plain impacts, so this event will certainly be studied in the future. The Corps will conduct an extensive review following the flooding this year to assess the operation, its effects, and learn where improvements or adjustments might be warranted. Whether or not future studies lead to changes in the operation of the reservoir system or land use policies remains to be seen.

Prepared by: MRJIC, Updated 12 June 2011

Approved by: Erik Blechinger/Jody Farhat

UPDATED: 2011 Release Schedule:

Releases from the Missouri River dams last fall and throughout the winter of 2010 were above normal. All flood waters from 2010 were released in time for the 2011 runoff season. 2010 was the third highest water year on record in the Missouri River Basin.

On 28 January 2011, the full flood capacity of the Missouri River reservoir system was available for this year's runoff season (reservoir was at desired 56.8 Million Acre Feet). At that point, and all the way through the first of May, we had no reason to think we needed to increase releases beyond normal levels.

The current need for high releases is due to a perfect storm: 1) plains snow; 2) extraordinary rainfall in eastern Montana, Northern Wyoming and the western Dakota in one month (300% of normal in May); and 3) additional mountain snowpack accumulation to record levels in May and a delayed melt.

The May 2011 runoff into the Missouri River Basin above Sioux City was 10.5 MAF – our normal May runoff based on historical records is only 3.3 MAF. This was the second highest single month of runoff since 1898. The only higher was in 1952 with 13.2 MAF in April. Not only is the May inflow unprecedented, but the yearly inflow is now forecast to be 54.6 MAF, more than twice the normal 24.8 MAF, and will be the highest ever.

Regulation of the reservoir system is in accordance with the Master Manual and it is not based on a worse-case scenario; it is managed for a reasonable range of potential runoff.

Answers to frequently asked 2011 Release Schedule Questions:

Why didn't you release more water earlier in the year?

Answer: At no time prior to the repeated rounds of heavy rain in the Upper Basin in May, resulting in record single-month inflows into our System, did we have reason to expect record releases. Immediately after this rainfall event we began incrementally stepping up our releases in a controlled manner, while still allowing people downstream to prepare for a record runoff water year.

Didn't you say you factor the weather forecast into your release schedule?

Answer: We do – every month we update our regulation forecast to reflect current and projected conditions. Unfortunately, no one had the crystal ball that predicted the record rains in a two week period in Montana.

How long will you continue at the projected 150,000 cfs release rate?

Answer: These peak releases will likely extend well into August. We need to maintain these high releases until the reservoirs are back down to a manageable level. The other guiding principle is that we want to have the releases in the fall at a low enough level for things to dry out and repair work to start before winter. This applies both to our mainstem dams and all the levees downstream.

Prepared by: MRJIC, 13 June 2011

Approved by: Erik Blechinger/Jody Farhat

NWO

From: Ruch, Robert J COL NWO
Sent: Monday, June 13, 2011 10:53 PM
To: McMahon, John R BG NWD; Anderson, G Witt NWD; Hofmann, Anthony J COL NWK; Farhat, Jody S NWD02
Subject: Fw: Fwd: Col. Ruch: Upper Missouri dams safe, functioning, operating as designed

FYSA

V/R,
COL Bob Ruch
Message sent via my BlackBerry Wireless Device

From: Ruch, Robert J COL NWO
To: 'waters4@ix.netcom.com' <waters4@ix.netcom.com>
Cc: 'wlay@socket.net' <wlay@socket.net>
Sent: Mon Jun 13 20:51:47 2011
Subject: Re: Fwd: Col. Ruch: Upper Missouri dams safe, functioning, operating as designed

Tom - thanks for passing this along.

Bill - thanks for taking the time to send your thoughts along. I'll be sharing them with BG McMahon and others. We all have a great deal to think about now that we have this new data point. Stay in touch.

V/R,
COL Bob Ruch
Message sent via my BlackBerry Wireless Device

From: Tom & Karla Waters <waters4@ix.netcom.com>
To: Ruch, Robert J COL NWO
Cc: Lay Bill <wlay@socket.net>
Sent: Mon Jun 13 20:45:16 2011
Subject: Fwd: Col. Ruch: Upper Missouri dams safe, functioning, operating as designed

Colonel Ruch:
Please see the following from Bill Lay.
Thanks,
Tom

Begin forwarded message:

From: William Lay <wlay@socket.net>

Date: June 13, 2011 7:50:52 PM CDT

To: [REDACTED]

Cc: Tom & Karla Waters <waters4@ix.netcom.com>, Bill Jackson <bill@agriservices.com>, Danny & Trisha Kuenzel <tkuenzel@yhti.net>, William Lay <wlay@socket.net>, Sam Johnson <smjfarm@centurytel.net>

Subject: Re: Col. Ruch: Upper Missouri dams safe, functioning, operating as designed

Dear Kevin,

I can't find Col. Ruch's e-mail address, but since you write some of his articles and probably are in touch with him periodically I thought I would make some suggestions to you which you can pass along to him.

Your article the Colonel states that the dams are fully functional and operating as designed. I am sure Jody is following the regulations, but it appears to me that she hasn't been given adequate tools.

Perhaps we need a few changes in the design of the reservoirs.

We have had a 44 million acre foot year which is about the highest flow we have ever had.

We only have 11 million acre feet of flood control storage in the system.

We are not going to be able to give good flood control protection until we increase the flood control storage.

If we expect to give any flood protection we are going to have to get more tools to handle the water.

We can't expect him to handle this kind of a problem with a tea cup.

Maybe this year will motivate folks to give the corps a few more tools and a little more flood control storage.

The Corps has done a fine job this year with the tools it has been given but it clearly needs more.

I am sure all of these thoughts have occurred to him.

Bill Lay

On Jun 11, 2011, at 1:23 PM, U.S. Army Corps of Engineers wrote:

<file:///C:/DOCUMENTS/g6pa9krq/LOCALS~1/Temp/msohtmlclip1/01/clip_image001.jpg>

U.S. ARMY CORPS OF ENGINEERS

BUILDING STRONG®

NEWS RELEASE

For Immediate Release: June 11, 2011

Contact: Joint Information Center 402-996-3877

mrjic@usace.army.mil

Col. Ruch: Upper Missouri dams safe, functioning, operating as designed

By Col. Robert J. Ruch

Commander, Omaha District

U.S. Army Corps of Engineers

The U.S. Army Corps of Engineers is engaged in an epic flood fight. For the last few months, we have focused on managing heavy inflows caused by record snowpack and rainfall in the Upper Missouri River basin. On May 1, the Corps projected summer releases of 57,500 cubic feet per second from Gavins Point Dam and were on schedule to evacuate the runoff from the record snowpack.

Then storms dumped eight inches of rain over Montana and North Dakota and changed the entire scenario. We will be managing these and subsequent inflows for the next several months as record runoff surges through the main stem system.

As Commander of the Omaha District U.S. Army Corps of Engineers, I assure you that we make public safety our number one priority. We are also intensely focused on providing the public with timely, accurate and useable information.

In today's information age, we are confronted with reported assertions that are inaccurate and may induce fear and uncertainty without merit. Such assertions published

and circulated in the past few weeks would have the public believe that the main stem dam system on the Upper Missouri could fail.

I disagree with those assertions.

I won't lend unproven assertions any credence by repeating them or analyzing them point by point. I do, however, want the public to know this:

The dams on the Upper Missouri - Fort Peck, (Mont.), Garrison Dam (N.D.), Oahe Dam, Big Bend Dam, and Fort Randall Dam (all S.D.) and Gavins Point (S.D./Neb.) -- are fully functional and operating as designed.

The system is protecting the public from unregulated flows. Unregulated flows - which

occur when flood waters flow uncontrolled in a spillway -- would result in significantly more damage. There is no evidence to suggest an emergency situation at any of our dams, and all projects are operating within their design parameters.

Public safety is paramount. As part of this responsibility, we long ago implemented a comprehensive dam safety program at each of our dams. We conduct daily, yearly and periodic (every 5 years) inspections, teaming with state dam safety agencies, Northwestern Division and other agencies to ensure the safety of these structures.

Our extensive instrumentation program allows us to closely monitor areas of interest such as seepage pressure and any minor movement. We've also re-evaluated seismic designs as the state of practice has evolved over recent decades. People need to remember that although our flood control storage is near capacity, dam functionality is not. There is no danger that any of our dams will be overtopped.

It is worth noting that all six dams have experienced similar pool levels several times over their service life. We make it standard operating procedure to increase the level of surveillance as water levels rise so that we can best manage the risks associated with dams of this size and importance. Our elevated surveillance on these dams has not revealed any significant issues or concerns regarding operation at these high pools and or record releases.

In closing, I have full confidence in the operational integrity of our main stem dams. Our dams are inspected and maintained on rigid schedules. Holding back volumes of water is what they were designed to do, and these structures have not only met but surpassed these expectations. We are respectful of these structures and pledge to remain vigilant to continually evaluate the performance and reliability of these projects into the future.

The Corps is 100 percent committed to this flood fight and we will continue to manage this record event on the river with public safety as our top priority. We will continue to use best engineering practices to manage the flood waters in the Missouri River main stem dam and reservoir system as the fight moves into summer.

Please call us if you have questions - our Joint Information Center number is 402-996-3877. You can also go to our website at <http://www.nwo.usace.army.mil/<http://USACEARMY.pr-optout.com/Url.aspx?520028x1307441x1765121>>

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#

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U.S. ARMY CORPS OF ENGINEERS

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NEWS RELEASE

<<http://us.vocuspr.com/Url.aspx?520028x1307442x456968>>

If you would rather not receive future communications from U.S. Army Corps of Engineers, let us know by clicking here. <<http://USACEARMY.pr-optout.com/OptOut.aspx?520028x24691x317899x3x1875581x24000x6&Email=wlay%40socket.net>>
U.S. Army Corps of Engineers, 1616 Capitol Ave., Omaha, NE 68102 United States

NWO

From: McMahon, John R BG NWD
Sent: Monday, June 13, 2011 7:49 PM
To: Anderson, G Witt NWD
Cc: [REDACTED] NWD; Blechinger, Erik T NWO; Farhat, Jody S NWD02
Subject: Re: Rework of language about possibly re-evaluating the Master Manual (UNCLASSIFIED)

Yes sir. Thanks!

----- Original Message -----

From: Anderson, G Witt NWD
To: McMahon, John R BG NWD
Cc: [REDACTED] NWD; Blechinger, Erik T NWO; Farhat, Jody S NWD02
Sent: Mon Jun 13 15:47:10 2011
Subject: Fw: Rework of language about possibly re-evaluating the Master Manual (UNCLASSIFIED)

Sir, are you good with this? Key point is we will consider new information learned this year. Thanks,

Witt

Message sent via my BlackBerry Wireless Device

----- Original Message -----

From: [REDACTED] NWD
To: [REDACTED] NWD; Anderson, G Witt NWD
Cc: Blechinger, Erik T NWO; Farhat, Jody S NWD02
Sent: Mon Jun 13 15:05:21 2011
Subject: RE: Rework of language about possibly re-evaluating the Master Manual (UNCLASSIFIED)

Classification: UNCLASSIFIED

Caveats: NONE

Witt,

With changes per your request. Just let me know once we have final language and I will update the talking points sheets and the pocket-sized handout being prepared for Corps employees.

v/r, [REDACTED]

"The reservoir system has been operated in accordance with the Master Manual. However, 2011 will be a new data point in the history of the Missouri River Basin, both in terms of hydrology and flood plain impacts. The Corps will review the flooding this year to determine the flood's effects and learn where improvements or adjustments might be warranted. Whether or not future studies lead to changes in the operation of the reservoir system is yet to be determined."

[REDACTED]
Attorney/Advisor, U.S. Army Corps of Engineers Office of Counsel, Northwestern Division,
Portland OR [REDACTED] (Attorney Client and/or Attorney Work Product-- DO NOT RELEASE UNDER
FOIA OR OUTSIDE USACE)

Classification: UNCLASSIFIED
Caveats: NONE

Classification: UNCLASSIFIED
Caveats: NONE

[REDACTED] NWO

From: [REDACTED]
Sent: Monday, June 13, 2011 7:07 PM
To: Farhat, Jody S NWD02
Subject: RE: Doug Palmer - suggestion for June 12 powerpoint (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

I will talk to him tomorrow.

[REDACTED]
-----Original Message-----

From: Farhat, Jody S NWD02
Sent: Monday, June 13, 2011 7:06 PM
To: [REDACTED]
Cc: [REDACTED]
Subject: RE: Doug Palmer - suggestion for June 12 powerpoint (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Slide 7 of the new presentation has the annual runoff volumes he penciled in on the pdf included in his email - maybe he just missed it.

-----Original Message-----

From: [REDACTED]
Sent: Monday, June 13, 2011 6:49 PM
To: Farhat, Jody S NWD02; [REDACTED]
Subject: RE: Doug Palmer - suggestion for June 12 powerpoint (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

All,

The presentation he is talking about is the "new" flood presentation. It has a 12 Jun 11 update in slides 4 and 6. The AOP is previous to that date.

Anyway sorry for any confusion. We know you are all busy. Doug was wanting to help.

[REDACTED]
-----Original Message-----

From: Farhat, Jody S NWD02
Sent: Monday, June 13, 2011 6:32 PM
To: [REDACTED]
Subject: RE: Doug Palmer - suggestion for June 12 powerpoint (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

John, please point him to the updated flood presentation on the front page of our web site. I think the one he's looking at is from the AOP meeting in April.

Jdoy

-----Original Message-----

From: [REDACTED] John P. NWD

Sent: Monday, June 13, 2011 4:39 PM

To: Farhat, Jody S NWD02; [REDACTED] NWD02

Subject: FW: Doug Palmer - suggestion for June 12 powerpoint (UNCLASSIFIED)

Classification: UNCLASSIFIED

Caveats: NONE

Doug is suggesting an additional slide to your flood slides updated to 12Jun11.

From: Doug [mailto:doug@tegracorp.com]

Sent: Monday, June 13, 2011 4:25 PM

To: [REDACTED]

Subject: Doug Palmer - suggestion for June 12 powerpoint

This is in the category of unsolicited opinions....

I ran across the new powerpoint (June 12) showing why the Corps is releasing the water. The presentation is great, but it doesn't give much historical context of runoff. I have attached a page from one of your other presentations that I would suggest adding to improve people's understanding of how much water you are dealing with.

I'm sure you guys are starting to catch some heat. Up here in Sioux City, the initial shock is over and now people are beginning to ask "why is this happening and who is to blame". That new presentation will go a long way toward helping understand exactly what is going on.

Doug

Doug Palmer

Tegra Corporation - 2651 Murray St - PO Box 3809 - Sioux City, IA 51102

P: 712-258-6596 - F: 712-258-6590 - C: 712-253-0026 - E: doug@tegracorp.com

Classification: UNCLASSIFIED
Caveats: NONE

Classification: UNCLASSIFIED
Caveats: NONE

Classification: UNCLASSIFIED
Caveats: NONE

Classification: UNCLASSIFIED
Caveats: NONE

Classification: UNCLASSIFIED
Caveats: NONE

NWO

From: [REDACTED]
Sent: Monday, June 13, 2011 7:02 PM
To: [REDACTED]; [REDACTED] NWO; [REDACTED] NWO; [REDACTED] B
[REDACTED] NWO; Clement, George L LTC NWO; [REDACTED] NWO; [REDACTED] NWO; [REDACTED]
[REDACTED] NWO; Farhat, Jody S NWD02; [REDACTED] NWO;
[REDACTED] NWO; [REDACTED] NWO; Ruch, Robert J COL
NWO; Jordano, James J LTC NWO; Farhat, Jody S NWD02
Subject: Missouri River Aerial Photos - L-575 Levee Breach

Missouri River aerial flood photos of L-575 levee breach are located on branch shared drive at 2011_Flood/Missouri River Aerial Photos/Mo River L-575 Breach - Hamburg.

Thanks,

Hydraulic Engineer
Water Control & Water Quality Section

[REDACTED] NWO

From: [REDACTED]
Sent: Monday, June 13, 2011 6:49 PM
To: Farhat, Jody S NWD02; [REDACTED] Michael A NWD02
Subject: RE: Doug Palmer - suggestion for June 12 powerpoint (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

All,

The presentation he is talking about is the "new" flood presentation. It has a 12 Jun 11 update in slides 4 and 6. The AOP is previous to that date.

Anyway sorry for any confusion. We know you are all busy. Doug was wanting to help.

[REDACTED]
-----Original Message-----

From: Farhat, Jody S NWD02
Sent: Monday, June 13, 2011 6:32 PM
To: [REDACTED] Kevin P NWD02 [REDACTED] Michael A NWD02
Subject: RE: Doug Palmer - suggestion for June 12 powerpoint (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

[REDACTED] please point him to the updated flood presentation on the front page of our web site. I think the one he's looking at is from the AOP meeting in April.

Jdoy

-----Original Message-----

From: [REDACTED]
Sent: Monday, June 13, 2011 4:39 PM
To: Farhat, Jody S NWD02; [REDACTED]
Subject: FW: Doug Palmer - suggestion for June 12 powerpoint (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Doug is suggesting an additional slide to your flood slides updated to 12Jun11.

[REDACTED]
From: Doug [mailto:doug@tegracorp.com]

Sent: Monday, June 13, 2011 4:25 PM

To: [REDACTED]

Subject: Doug Palmer - suggestion for June 12 powerpoint

[REDACTED]

This is in the category of unsolicited opinions....

I ran across the new powerpoint (June 12) showing why the Corps is releasing the water. The presentation is great, but it doesn't give much historical context of runoff. I have attached a page from one of your other presentations that I would suggest adding to improve people's understanding of how much water you are dealing with.

I'm sure you guys are starting to catch some heat. Up here in Sioux City, the initial shock is over and now people are beginning to ask "why is this happening and who is to blame". That new presentation will go a long way toward helping understand exactly what is going on.

Doug

Doug Palmer

Tegra Corporation - 2651 Murray St - PO Box 3809 - Sioux City, IA 51102

P: 712-258-6596 - F: 712-258-6590 - C: 712-253-0026 - E: doug@tegracorp.com

Classification: UNCLASSIFIED
Caveats: NONE

Classification: UNCLASSIFIED
Caveats: NONE

Classification: UNCLASSIFIED
Caveats: NONE

[REDACTED] NWO

From: [REDACTED]
Sent: Monday, June 13, 2011 6:28 PM
To: Farhat, Jody S NWD02
Subject: RE: Request for reponse (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Jody:

I can share the process, but we should prepare to answer these questions either way as they may come up on the conference call. I could prepare responses and run them by you, but we want to be consistent with the letter. Who is working that response?

[REDACTED]
-----Original Message-----
From: Farhat, Jody S NWD02
Sent: Monday, June 13, 2011 6:17 PM
To: [REDACTED]
Subject: RE: Request for reponse (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Monique - we are working on a response to State Rep Porter's letter, which is quoted below. I haven't seen a letter from Hoeven - don't know if Mr Wenzel meant the Porter letter or if there's a letter I haven't seen. The response should be ready in a couple days. The general process we follow is once the letter is signed and sent out, it's out of our control and the recipient can share it with whomever they choose, but we don't provide copies of our responses to others. Of course, they can always make a formal request or FOIA it, but it's not like we post copies of our letters on the web.

Jody

-----Original Message-----
From: [REDACTED]
Sent: Monday, June 13, 2011 5:47 PM
To: Farhat, Jody S NWD02
Subject: Request for reponse (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Jody:

I received a query from Dale Wetzel (AP reporter in ND), and he wanted a response to Governor Hoeven's letter. Not sure if someone is working a response to this so far. See letter below...

June 9, 2011

Colonel Robert Ruch
Commander
Omaha District, Northwestern Division
United States Army Corps of Engineers
1616 Capitol Avenue, Suite 365
Omaha, NE 68102-4901

Dear Colonel Ruch:

This letter is a request for information relating to the current Missouri River flooding in Mandan/Bismarck, North Dakota. Specifically, I would like the following information:

- Why did the United States Army Corps of Engineers stop releasing water at an increased rate around the middle of March 2011 and not increase releases from the Garrison Dam until May 6th 2011, especially given the fact that the reservoirs was full and the snow pack was at least 140% of normal?
- What role, if any, did the snowpack in the upper portion of the Missouri River Basin play in the management of the water releases from the Garrison Dam?
- Given the fact that the reservoir system was full in 2010, why weren't the releases timed to prevent the catastrophic event that we are currently experiencing?
- Please provide any records regarding the decision to delay Garrison Dam releases and any internal memos/emails discussing the decisions to delay the releases and slow the releases in 2011.
- What part did the nesting season of the piping plover play in any water management decisions?

Thank you for your responses to this inquiry.

Sincerely,

Todd Porter
State Representative

Cc: Senator John Hoeven
Senator Kent Conrad
Congressman Rick Berg

[REDACTED]
Media Relations Team Lead/Missouri River Joint Information Center U.S. Army Corps of
Engineers Omaha District
[REDACTED]
[REDACTED]

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Classification: UNCLASSIFIED
Caveats: NONE

Classification: UNCLASSIFIED
Caveats: NONE

Classification: UNCLASSIFIED
Caveats: NONE

NWO

From: Ruch, Robert J COL NWO
Sent: Monday, June 13, 2011 6:10 PM
To: Anderson, G Witt NWD; [REDACTED]
Cc: McMahon, John R BG NWD; Tipton, Robert A Col NWD; [REDACTED]
[REDACTED] Farhat, Jody S NWD02
Subject: Re: Nuclear Regulatory Commission contact (UNCLASSIFIED)

Suggest highly that [REDACTED] be involved.
V/R,
COL Bob Ruch
Message sent via my BlackBerry Wireless Device

----- Original Message -----

From: Anderson, G Witt NWD
To: [REDACTED], Ruch, Robert J COL NWO
Cc: McMahon, John R BG NWD; Tipton, Robert A Col NWD; [REDACTED]
[REDACTED] Farhat, Jody S NWD02
Sent: Mon Jun 13 16:06:31 2011
Subject: RE: Nuclear Regulatory Commission contact (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

That's fine [REDACTED] And I will keep BG McMahon apprised if they do call, as well as Col Ruch and his team.

Witt

-----Original Message-----

From: [REDACTED]
Sent: Monday, June 13, 2011 2:29 PM
To: Anderson, G Witt NWD
Cc: McMahon, John R BG NWD; Tipton, Robert A Col NWD; [REDACTED]
[REDACTED]
Subject: Nuclear Regulatory Commission contact (UNCLASSIFIED)
Importance: High

Classification: UNCLASSIFIED
Caveats: NONE

Witt:

I was contacted by my counterpart at the Nuclear Regulatory Commission, who was directed to me by someone at USACE HQ. She asked who at Northwestern Division would be appropriate for NRC Region IV Administrator Elmo Collins to contact if he needed to have a "regional leader to regional leader" conversation about the potential effects of Missouri River flooding on the Fort Calhoun nuclear plant near Omaha.

Given that the commander and deputy are both elsewhere and you're in the flood fight AO, Dr. Hearn advised that we provide your cell phone number as a first POC, with the understanding that you can bring BG McMahon into the conversation as needed. Please advise if you'd rather I provide a different POC.

I will, of course, also provide contact information for the NWO JIC for routine status updates.

V/R,

[REDACTED]
Public Affairs Specialist
Portland District, U.S. Army Corps of Engineers

[REDACTED]
<http://www.nwp.usace.army.mil>

Facebook/Flickr/Twitter/YouTube: PortlandCorps

Classification: UNCLASSIFIED

Caveats: NONE

Classification: UNCLASSIFIED

Caveats: NONE

NWO

From: [REDACTED]
Sent: Monday, June 13, 2011 5:33 PM
To: Farhat, Jody S NWD02
Subject: FW: Omaha Breakfast Optimist Club Speaker for July, 2011 (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

JODY--Are you interested in the July 28 date? I figure the earlier dates may not be makeable, but it's your call. kq

-----Original Message-----

From: George Eckert [mailto:[REDACTED]]
Sent: Friday, June 10, 2011 3:23 PM
To: [REDACTED]
Subject: Omaha Breakfast Optimist Club Speaker for July, 2011

Dear Sir,

I was hoping to have a speaker from the Corps of Engineers speak to our group concerning the current flooding of the Missouri river.
We meet on Thursday morning at 7:15 AM and end about 8:15 AM. Your part would be about 20 to 30 minutes.
Attendance is about 15 people.
We meet at:
Westside Community Center
3534 S. 108 Street
Omaha, NE

Sincerely,

George C. Eckert
[REDACTED]

PS: They serve a fantastic breakfast.

Classification: UNCLASSIFIED
Caveats: NONE

[REDACTED] NWO

From: [REDACTED]
Sent: Monday, June 13, 2011 5:23 PM
To: [REDACTED]
Cc: Farhat, Jody S NWD02; Thomas, Kimberly S NWO
Subject: Flood_Fight_Talking_Points_13June11.docx (UNCLASSIFIED)
Attachments: Flood_Fight_Talking_Points_13June11.docx

Classification: UNCLASSIFIED

Caveats: NONE

All:

Updated TPs attached. Today's updates highlighted in yellow. HQ messages included.

Monique

Classification: UNCLASSIFIED

Caveats: NONE

Key Messages and Talking Points

ISSUE: Repeated rounds of heavy rain (300 to 600 percent of normal), coupled with record plains snowpack have pushed the Missouri River Reservoirs to very high levels nearly filling the reservoirs, reducing any flexibility built into our operations for 2011 and requiring aggressive and historic releases out of the main stem reservoirs. Weather conditions continue to change rapidly and we use real-time operations and the best information available at the time to determine our release schedules to keep pace with the rapidly changing weather conditions. High releases will continue through at least mid-August to evacuate stored floodwater and get the reservoirs to a manageable level. We are communicating those changes as soon as new information becomes available.

BACKGROUND: The Omaha District provides timely and effective technical advice and direct assistance before and during flood events with a goal of reducing flooding risks. In any disaster, our top priorities are: Support immediate emergency response priorities; Sustain lives with critical commodities, temporary emergency power and other needs; and, initiate recovery efforts by assessing and restoring critical infrastructure.

KEY/COMMAND MESSAGES

1. PUBLIC SAFETY

- Protecting lives is our number one priority. People living along the Missouri River and Platte River basin are encouraged to have plans to evacuate, protect their possessions and property.
- The Missouri River main stem system is operating as designed. Without the proper operation of the system and our emergency response efforts, more lives and property would be at risk.
- We have a vigilant dam safety program. Our dams are inspected and maintained on rigid schedules and are well-prepared to handle the floodwaters. This is what they were designed to do. Our dams are structurally sound and are not experiencing any symptoms that would indicate potential failure.
- Safety is a shared responsibility among federal, state, local, Tribal and private partners and we communicate these risks so people can make well-informed decisions about their safety. Safety risks associated with flooding events include: high water on levees, flooded roads, high flowing streams and environmental issues such as well contamination.
- The Corps coordinates with local officials and communicates with the public on the condition of Corps owned dams and the Missouri River system.
- We encourage the public to become educated and be aware of local conditions. Planning and preparedness may include purchasing weather alert radios, keeping emergency supplies on hand, and determining personal evacuation routes.

2. TIMELY RESPONSE & PREPAREDNESS

- We take our responsibilities seriously and are working to do everything within our ability to reduce the risks from these flood events on the Missouri River and Platte River Basin and provide assistance to the communities impacted by them.
- The Corps has a well-trained team of emergency response personnel engaged at critical spots along the Missouri River and Platte River Basin with the equipment and materials available for this flood fight.
- In coordination with Tribal governments and States, the Corps has supplied millions of sandbags, pumps, and thousands of feet of Hesco bastions for the construction of temporary levees to help communities prepare for the floodwaters. This is a national effort with many additional supplies coming in from across the country.

3. ASSISTANCE TO COMMUNITIES AND TRIBAL GOVERNMENTS

- Under the authority of Public Law 84-99 and the Flood Control and Coastal Emergencies appropriations, Corps emergency management personnel collaborate with local, county, state, federal and tribal officials to ensure coordinated efforts in flood risk reduction and emergency response activities.

- When disasters occur, it is not just a local Corps district or office that responds. Personnel and other resources are mobilized across the country to carry out our response missions.

4. EFFECTIVE COMMUNICATION

- State and local emergency management teams will be the point of contact for residents needing information about flooding in their area.
- We are using all available communication tools to keep the public informed of our emergency response operations, including:
 - Internet <http://www.nwo.usace.army.mil> - click the flooding link/maps are here and are shared with local emergency management offices
 - OmahaUSACE on Facebook, Twitter, Flickr and YouTube
 - The Missouri River Joint Information Center can provide citizens in communities living along the Missouri River basin with accurate, timely responses to their questions. The local contact number is: (402) 996-3877. The toll free number is: (877) 214-9110
 - Or, email us at MRJIC@usace.army.mil

Missouri River Basin

- Releases from the Missouri River dams last fall and throughout the winter of 2010 were above normal to complete the evacuation of the 2010 floodwaters. The full flood control capacity of the main stem reservoir system was available at the start of the 2011 runoff season.
- Each flooding event is unique. Varying factors such as rainfall location along the rivers and tributaries, and snowpack melt off patterns shape the characteristics of each flood. All floods are different and we caution people against trying to make comparisons between this flood and floods from years past. This is the Flood of 2011.
- Our hearts go out to those communities impacted by floodwaters and we will do everything in our ability to provide assistance. We are committed to this flood fight.
- We are in flood fights all along the Missouri River basin and are operating the river for flood risk reduction. We have not operated the system under the Endangered Species act in 2011 because of high water levels.
- Our goal is to evacuate reservoirs to provide time for damage assessment and repair prior to next year's runoff season. This will be a long and sometimes frustrating and intense effort, but we are committed to working together to avoid the loss of life, minimize damages and help communities. Flooded areas are expected to be inundated for several months. Moving water out of the reservoirs is essential to prevent the spillways from being overtopped which would make flooding much worse.
- The Missouri River main stem Reservoir System, which includes six dams, is operated in accordance with the Missouri River Master Manual. The Master Manual is a water control plan that helps guide how much water should be released, when, and for how long from our reservoirs for the benefit of the entire Missouri River basin. It is based on more than 100 years of historical runoff records (1898-2004).
- The dams on the Upper Missouri are fully functional and operating as designed. The system is protecting the public from unregulated flows. Unregulated flows – which occur when flood waters flow uncontrolled in a spillway -- would result in significantly more damage.
- There is no evidence to suggest an emergency situation at any of our dams, and all projects are operating within their design parameters.
- On Monday, June 13, a full breach occurred on the Missouri River Federal Levee L-575 near Hamburg, Iowa. This fourth breach is south of the previous three partial breaches. The full breach is approximately 300 feet-foot wide. The levee is near River Mile 552 in Atchison County, Missouri. This federally constructed levee is operated and maintained by the non-federal sponsor. It was built in the late 1940's.
- Levees can be breached for a variety of reasons, and at this time, it's too early to determine what caused the full breach today. The sponsor will be intentionally breaching a downstream portion of the levee to minimally delay the time in which the area will fill with water—although it is estimated that the area will fill to an elevation of 916 in 48 hours. We have a comprehensive and aggressive federal levee safety program. It includes an annual inspection for adequate maintenance and a more rigorous structural review every five years.

From: [REDACTED]
Sent: Monday, June 13, 2011 5:03 PM
To: Farhat, Jody S NWD02; McMahon, John R BG NWD; Ruch, Robert J COL NWO; Anderson, G Witt NWD; [REDACTED]
Cc: [REDACTED]
Subject: RE: Coordination with WAPA (UNCLASSIFIED)

Very glad to hear it.

[illegible]

Sirs:

[REDACTED] and I participated in another conference call with WAPA officials (Bob Harris, Jody Sundsted, and Pete Kinney) this morning. We emphasized the dam safety concerns with regard to the operation of the outlet tunnels and spillways in the current manner.

WAPA will redouble their efforts to reduce fluctuations at the mainstem dams through the use of coal and gas generating units and by making adjustments to the wind power in the balancing area. They had already made adjustments to a portion of the wind generated by Basin Electric, but will now make adjustments to the remaining wind as needed. To date, they have resisted this step since they have to pay liquidated damages for the remaining wind energy if it is taken off-line.

They may also ask us to increase spills at the projects like we did over the past weekend. It may be cheaper for them to take the hydro off-line and lose that revenue source, than to pay the liquidated damages associated with the wind contracts.

We emphasized that our primary concerns were to minimize fluctuations in releases through the outlet tunnels and spillways, and to meet the daily targets in releases/generation with limited hourly fluctuations to minimize impacts to downstream locations.

We made it clear that decisions at this time cannot be made based on economics and that the current operation of the outlet tunnels and spillways is a dam safety issue.

VR,
Jody

Jody Farhat, P.E.
Chief, Missouri River Basin Water Management

jody.s.farhat@usace.army.mil

Office: 402-996-3840

Cell: 402-350-1417
[REDACTED]

Classification: UNCLASSIFIED

Caveats: NONE

Classification: UNCLASSIFIED

Caveats: NONE

[REDACTED] NWO

From: [REDACTED]
Sent: Monday, June 13, 2011 4:39 PM
To: Farhat, Jody S NWD02; [REDACTED]
Subject: FW: Doug Palmer - suggestion for June 12 powerpoint (UNCLASSIFIED)
Attachments: hppscan3.pdf

Classification: UNCLASSIFIED
Caveats: NONE

Doug is suggesting an additional slide to your flood slides updated to 12Jun11.

[REDACTED]

From: Doug [<mailto:doug@tegracorp.com>]
Sent: Monday, June 13, 2011 4:25 PM
To: [REDACTED]
Subject: Doug Palmer - suggestion for June 12 powerpoint

[REDACTED]

This is in the category of unsolicited opinions....

I ran across the new powerpoint (June 12) showing why the Corps is releasing the water. The presentation is great, but it doesn't give much historical context of runoff. I have attached a page from one of your other presentations that I would suggest adding to improve people's understanding of how much water you are dealing with.

I'm sure you guys are starting to catch some heat. Up here in Sioux City, the initial shock is over and now people are beginning to ask "why is this happening and who is to blame". That new presentation will go a long way toward helping understand exactly what is going on.

Doug.

Doug Palmer

Tegra Corporation - 2651 Murray St - PO Box 3809 - Sioux City, IA 51102

P: 712-258-6596 - F: 712-258-6590 - C: 712-253-0026 - E: doug@tegracorp.com

Classification: UNCLASSIFIED

Caveats: NONE

Annual Runoff above Sioux City, IA

2011 (Apr 1 Forecast) = 33.8 MAF

(136% of normal)

2010 = 38.7 MAF

2009 = 33.5 MAF

2008 = 26.8 MAF

Average = 24.8 MAF

previous record 49.6 MAF in 1997

June 4.6 MAF

From: Farhat, Jody S NWD02
Sent: Monday, June 13, 2011 4:31 PM
To: Farhat, Jody S NWD02; McMahon, John R BG NWD; Tipton, Robert A Col NWD; Anderson,
G Witt NWD; Ruch, Robert J COL NWO; Hofmann, Anthony J COL NWK; Blechinger, Erik T
NWO; [REDACTED]; [REDACTED] NWD; [REDACTED] NWD; [REDACTED] NWD; [REDACTED]
[REDACTED], Austin-Smith, Christina A
NWD; H [REDACTED] NWD; [REDACTED] NWD; [REDACTED] NWD; [REDACTED] NWD;
[REDACTED] MAJ NWD; [REDACTED] NWD; Kirajewski, Matthew S NWC; [REDACTED]
[REDACTED]

Cc: [REDACTED] NWD02; Swenson, Michael A NWD02; McAllister, Roy L Jr NWD02;
Aniszczyk, Joel D NWD02; La [REDACTED] NWD02; Bergman, Rosemary C NWD02;
[REDACTED] NWD02; Patten, Ronald E NWD02; [REDACTED] NWD02

Subject: RE: WM Talking Points for 13 June stakeholder call (UNCLASSIFIED)
Attachments: 2011 Missouri River Flood Talking Points 13 Jun 2011.docx

-----Original Message-----

From: Farhat, Jody S NWD02
Sent: Sunday, June 12, 2011 3:55 PM
To: Farhat, Jody S NWD02; McMahon, John R BG NWD; Tipton, Robert A Col NWD; Anderson, G Witt NWD; Ruch, Robert J COL NWO; Hofmann, Anthony J COL NWK; Blechinger, Erik T NWO; [REDACTED], [REDACTED], [REDACTED], John J NWK, Blair, Amy E NWK, Williamson, Fileen L NWO; Farmer, Monique [REDACTED] Johnston, Paul I HQO NWO; Austin Smith, Christopher A NWK; Heelan, James C NWD; [REDACTED], Surya NWD, Bette, [REDACTED] NWD02, Love, Raymond C NWK, Lindquist, Todd J NWK, [REDACTED] NWK, [REDACTED], [REDACTED] Team Call
Cc: [REDACTED] NWK02, [REDACTED] Michael A NWK02, M. [REDACTED] NWK, [REDACTED] NWK, [REDACTED] NWK02, [REDACTED] NWK02, Hargrave, Rosemary C NWK02, Shamir, Kevin D NWK02, Boyer, P. [REDACTED] NWK, [REDACTED]
Subject: RE: WM Talking Points for 12 June stakeholder call (UNCLASSIFIED)

FYI

Classification: UNCLASSIFIED
Caveats: NONE

2011 Missouri River Flood Talking Points
Missouri River Water Management
13 June 2011

We posted the updated reservoir forecast to the web this afternoon. The only adjustment in releases was at Fort Randall where we adjusted release in consideration of the Gavins Point pool level. The Gavins Point pool is declining as expected so we were able to begin coming up on Fort Randall releases albeit a little slower than previously forecasted.

We will continue to make these small intrasystem adjustments throughout the summer to best balance the reservoir levels and releases. The anticipated peak releases remain the same: 65,000 cfs at Fort Peck, and 150,000 cfs at the lower 5 dams: Garrison, Oahe, Big Bend, Fort Randall and Gavins Point.

The release schedule for the 6 dams are as follows:

- Fort Peck –Releases were increase to 65,000 cfs today and will be held at that level.
- Garrison –140,000 cfs today, holding at that level through Wednesday, increasing to 145,000 cfs on Thursday and reaching the peak release of 150,000 cfs on Friday.
- Oahe and Big Bend –Releases will remain at the peak level of 150,000 cfs.
- Fort Randall – 140,000 cfs today and tomorrow, gradually stepping up to the peak release of approximately 148,000 cfs by the middle of next week.
- Gavins Point – 145,000 cfs today, then stepping up to the peak release of 150,000 cfs on Tuesday.

Peak releases are expected to continue well into August.

The forecast is based on best available information at this time; actual releases are based on conditions on the ground and are subject to change

NWO

From: [REDACTED]
Sent: Monday, June 13, 2011 4:20 PM
To: Ruch, Robert J COL NWO; Anderson, G Witt NWD
Cc: Thomas, Kimberly S NWO; [REDACTED]
[REDACTED] Farhat, Jody S NWD02
Subject: Questions that will likely come up on tonight's call (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

All:

I have steered Mr. Hendee toward tonight's call, but wanted to make you aware of these additional questions, which will likely be asked on tonight's call by Mr. Hendee or one of the other reporters.

V r,

-----Original Message-----

From: Hendee, David [<mailto:David.Hendee@owh.com>]
Sent: Monday, June 13, 2011 4:11 PM
To: [REDACTED]
Subject: Hendee question

Nice to meet you today. Here are a few follow up questions:

1. I've heard of another levee failure south in Holt County, Mo, today. Can you describe where and the size of the break there?
2. What are the projections for where water from this latest Hamburg breach will flow? Just east and south toward I-29? Or can it back fill behind the levee and flood land north (upstream) from Hamburg toward Percival, Iowa, and the road to Nebraska City, Neb.?

Thanks,

David Hendee
Omaha World-Herald
402-444-1127

Classification: UNCLASSIFIED
Caveats: NONE

[REDACTED] NWO

From: [REDACTED]
Sent: Monday, June 13, 2011 4:14 PM
To: 'DeYoung, Jeff' Iowa Farmer Today'; Farhat, Jody S NWD02
Subject: RE: Reporter query (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Jeff:

The planned peak releases from the 5 lowest main stem dams remains at 150,000 cfs based on the best information available. At this time we don't anticipate going any higher, but if the upper basin continues to be hit with much above normal rainfall, that number could potentially increase. The dams can safely pass much higher releases, but we have no intention of utilizing the full capacity. For example, the spillway at Gavins Point can pass 345,000 cfs.

Thanks,

[REDACTED]
-----Original Message-----

From: JEFF DEYOUNG [mailto:deyoungster4@msn.com]
Sent: Monday, June 13, 2011 10:56 AM
To: [REDACTED]
Subject: RE: Your question (UNCLASSIFIED)

Thanks, [REDACTED]

Had another question - a friend of mine said she heard on CSPAN some talk about possibly much more water being released out of the dams, possibly 500,000 cfs. I am guessing this is just some more misinformation, but guess I wanted to check and to see what the maximum cfs capacity is at Gavins Point.

> Subject: Your question (UNCLASSIFIED)
> Date: Sat, 11 Jun 2011 15:05:58 -0500
> From: [REDACTED]
> To: deyoungster4@msn.com
>
> Classification: UNCLASSIFIED
> Caveats: NONE
>
> Jeff:
>
> We have not yet estimated the amount of farmland that may flood.
> Following a flood event, we typically develop statistics that
> determine the amount of flood damages prevented by our flood risk reduction measures.
>
> V r,

>
> [REDACTED]
> Media Relations Team Lead/Missouri River Joint Information Center U.S.
> Army Corps of Engineers Omaha District
> [REDACTED]
> [REDACTED]
>

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> Classification: UNCLASSIFIED
> Caveats: NONE
>
>

Classification: UNCLASSIFIED
Caveats: NONE

Classification: UNCLASSIFIED
Caveats: NONE

Classification: UNCLASSIFIED
Caveats: NONE

[REDACTED] NWO

From: [REDACTED]
Sent: Monday, June 13, 2011 4:04 PM
To: Farhat, Jody S NWD02
Cc: [REDACTED]
Subject: Re: Omaha District Congressional Liaison transition (UNCLASSIFIED)

These are the exact talking points I recd from you previously. I've just recycled them. Please send me whatever you'd like us to use. Its always basically the same question, asked a little differently. That is why I cc'd you- to make sure we're getting it right! ;-). Thanks Jody.

----- Original Message -----

From: Farhat, Jody S NWD02
To: [REDACTED]
Cc: J [REDACTED], Greg [REDACTED]
Sent: Mon Jun 13 13:43:58 2011
Subject: RE: Omaha District Congressional Liaison transition (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

[REDACTED]

Just FYI, we haven't been using the talking point about needing to release 85-90 kcfs even if we had had perfect foresight. The numbers there are very rough and subject to a lot of judgment. It's okay to have used it in this response, but in the future it would be best to use some of the other talking points. I'd be happy to help you with those as needed.

Thanks,

Jody

p.s. [REDACTED] no baby yet? What are you waiting for!

-----Original Message-----

From: DiLuccia, Janelle (Johnson) [mailto:Janelle_DiLuccia@johnson.senate.gov]
Sent: Monday, June 13, 2011 3:27 PM
To: [REDACTED]
Cc: J [REDACTED]
Subject: RE: Omaha District Congressional Liaison transition

This is very helpful - thank you.

Janelle

-----Original Message-----

From: [REDACTED] [mailto:Kayla.A.Eckert@usace.army.mil]
Sent: Monday, June 13, 2011 3:48 PM
To: DiLuccia, Janelle (Johnson)
Cc: [REDACTED], Farhat, Jody S NWD02
Subject: RE: Omaha District Congressional Liaison transition

Hi Janelle,

Archived daily precipitation information is available on the NWS website at
<http://water.weather.gov/precip/>

Another good source of information is the many press releases Water Management and the Omaha District have issued since the first of May.

They're available on the website and will provide information at key points in time when operation of the system was changing due to weather conditions.

<http://www.nwo.usace.army.mil>

You are correct that the mainstem reservoirs all had their Exclusive Flood Control pools evacuated. We can pull the archived releases if you want, but if it's the full analysis, it typically occurs during the post flood report.

The short of it is that even if we had known this historic runoff was coming, record releases from all 6 mainstem dams would have been necessary to handle the runoff. Based on our forecasted 44 MAF of runoff from March through July, we would likely have needed releases in the range of 85,000 to 90,000 cfs from the lower 5 dams for the period of 1 March through this fall.

Although significantly lower than the planned release, these would be far above previous records and they would have needed to begin on 1 March when the river was still ice covered. Had we waited until the ice went off the river and the plains snowpack melted, releases of over 100,000 cfs would certainly have been required.

In reality, we had no basis on which to increase flows to historic levels until the extraordinary rainfall event which resulted in a record runoff in May.

Again, this is just a quick synopsis. A more detailed review will be conducted following the flooding this year to assess the operation of the reservoir system, its effects, and to learn where improvements or adjustments might be warranted. Whether or not future studies lead to changes in the operation of the reservoir system or land use policies remains to be seen. Keep in mind that the 14 year process which led to the Master Manual is what dictates how we operate the system.

Let me know if you have any questions or if this suffices for now.

Thanks,
[REDACTED]

-----Original Message-----

From: DiLuccia, Janelle (Johnson)

[mailto:Janelle_DiLuccia@johnson.senate.gov]

Sent: Monday, June 13, 2011 2:30 PM

To: [REDACTED]

Cc: [REDACTED]

Subject: RE: Omaha District Congressional Liaison transition

Hi [REDACTED]

Thanks for all the information that the Corps has provided on this year's flood fight. I'm hoping you can also provide a bit of historical context for the current situation so that I can ensure my boss has the most accurate information possible.

In listening to the regular MRJIC calls, there have been several mentions of the full flood storage capacity being available at the start of the runoff season this year. Could you elaborate about that timing and the amount of flood storage that was available prior to the May precipitation? I was looking at the Missouri River Mainstem Reservoir 2011 Flood Regulation presentation

(<http://www.nwd-mr.usace.army.mil/rcc/reports/pdfs/MissouriRiverFlooding6Jun2011.pdf>); am I correct in understanding that the mainstem reservoirs had all of their Exclusive Flood Control as well as the Annual Flood Control & Multiple Use storage space available earlier this year? Also, how do the reservoir levels at the start of the spring season compare to previous years?

I know you are incredibly busy, but any contextual information you could provide would be greatly appreciated. Additionally, if there are any additional background resources (additional reports or presentations) that would provide useful context, I'd welcome them.

Thanks,

Janelle
202-224-1633 (direct)

Janelle DiLuccia
Legislative Assistant
Office of Senator Tim Johnson
136 Hart Senate Office Building
Washington, DC 20510
202-224-5842
janelle_diluccia@johnson.senate.gov

-----Original Message-----

From: [REDACTED]
Sent: Friday, June 10, 2011 6:47 PM
To: alan.feyerherm@mail.house.gov; Andera Travnicek (ND Governors Office); Ann Thomas Johnston (NE Terry); Anne Thimsen (SD Noem); Ansley Mick (NE Smith); Ready, Benjamin (Thune); Brad Schweer (Terry); Clifford, Brian (Barrasso); Brian Dunnigan (NE Governor's Office); Dugan, Brianne (Baucus); Tomassi, Chris (Enzi); English, Dan (Thune); Podany, Darrell (Johanns); Williamson, Dayle (Ben Nelson); Dean.Mathisen@mail.house.gov; deb.vanmatre@mail.house.gov; Edwin Elfmann (IA King); Eric Bierwagen (MT Rehberg); Lutt, Erick (Ben Nelson); Nelson, Erik (Johnson); DiLuccia, Janelle (Johnson); Judith Roberts (ND Berg); Howard, Kate (Ben Nelson); Kevin Caulfield (ND Berg); Wallin, Kristi (Barrasso); lindsey.christman@mail.house.gov; Louis.pofahl@mail.house.gov; Boeckel, Marty (Conrad); Mary.Hollatz@mail.house.gov; Johner, Nancy (Johanns); Vander Plaats, Nathan(Harkin); Lehman, Patrick (Johanns); Leahy, Patrick (NelBe); pete.Obermueller@mail.house.gov; Erdman, Phil (Johanns); Renee Latterell (SD Noem); Bailey, Robin (Enzi); Keys, Ross (Conrad); Ryan Broker ; ryan.mcconnaughey@mail.house.gov; Schwietert, David (Thune); Goettle, Shane (Hoeven); Boysen, Sharon (Johnson); Kuntz, Sherry (Grassley); Gray, Spencer (Baucus); Suzanne.vennis@mail.house.gov; Ted Stopulos; Thomas "Tucker" Fagan (WY Lummis); Todd Sando (ND State Water Commission); Tom Nelson (ND Berg); Sutton, Tracee (Conrad); WY Governor's Office; Nelson, Zach (Ben Nelson)
Cc: [REDACTED]
Subject: Omaha District Congressional Liaison transition
Importance: High

All:

Over Memorial Day Weekend when the Omaha District Emergency Operations Center (EOC) went into 24 hour operations, I was immediately tasked with setting up the Missouri River Joint Information Center with Erik Blechinger. Once he and I got it up and running and staffed, I managed to transition myself out back to my day job as Chief of Planning and Omaha

District Congressional Liaison. I transitioned out of the MRJIC quickly, mainly because I needed to prepare for the final transition of my Planning Chief and Congressional Liaison responsibilities to other folks as I prepare for maternity leave. I received and answered many emails for all of you through the MRJIC, but ask that you would forward all your requests to me directly rather than through the MRJIC as my Omaha District Congressional Liaison role has ultimate responsibility to you. When they go to the MRJIC now, they essentially are forwarded to me. I can respond more quickly to you by just having you contact me directly.

I am now 7 days out from my delivery date of 18 Jun. My plan is to be on maternity leave through early October. Due to the circumstances at hand in the basin, I plan to work until delivering. I am copying [REDACTED] on all emails as he will handle all Omaha District Congressional needs in my absence. I will notify you when I am out of the office for leave, but in advance, his contact information is: [REDACTED]. Also, in my absence you can always contact my immediate supervisor, [REDACTED] who is the District Deputy Engineer at [REDACTED].

It is a pleasure working with all of you throughout the basin. Again, I will notify you when my maternity leave starts. Until then, please contact me directly with any needs at the contacts listed below.

Best,

[REDACTED]
Chief of Planning
Congressional Liaison
US Army Corps of Engineers
Omaha District
1616 Capitol Avenue
Omaha, NE 68102-4901
[REDACTED]
[REDACTED]

Classification: UNCLASSIFIED
Caveats: NONE



NWO

From: [REDACTED]
Sent: Monday, June 13, 2011 3:50 PM
To: [REDACTED]
Cc: [REDACTED]
Subject: Flood Report #11 - Fort Peck Project (UNCLASSIFIED)
Attachments: Spillway Feeder Line 003.jpg

Classification: UNCLASSIFIED
Caveats: NONE

All: Releases from Fort Peck Dam continue at 65,000 cfs with 13,000 cfs through the power plants and 52,000 cfs through the spillway. Fort Peck pool elevation is at 2252.0 today.

We continue to monitor the spillway stilling basin erosion.

Twenty-four hour surveillance continues on the dam and spillway. No issues were noted in the last twenty-four hours.

Western Area Power Administration, with assistance from Project staff, are installing a temporary overhead line to restore primary power to the spillway. See attached photo.

██████████ continues to assist Fort Peck Tribes in Wolf Point in protecting their rural water intake plant.

██████████ met with the Fort Peck Tribal Council this morning.

Supervisory Admin Officer
[REDACTED]
[REDACTED] 5411, Ext 4204
[REDACTED]
[REDACTED] 406-526-3593
[REDACTED]
PO BOX 208
Fort Peck, MT 59223

Classification: UNCLASSIFIED
Caveats: NONE

NWO

From: [REDACTED]
Sent: Monday, June 13, 2011 3:09 PM
To: Farhat, Jody S NWD02
Subject: RE: Coordination with WAPA (U)

Classification: UNCLASSIFIED
Caveats: NONE

Thanks Jody!

-----Original Message-----

From: Farhat, Jody S NWD02
Sent: Monday, June 13, 2011 2:36 PM
To: McMahon, John R BG NWD; Ruch, Robert J COL NWO; Anderson, G Witt NWD; [REDACTED]

Subject: FW: Coordination with WAPA (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Sirs:

[REDACTED] and I participated in another conference call with WAPA officials (Bob Harris, Jody Sundsted, and Pete Kinney) this morning. We emphasized the dam safety concerns with regard to the operation of the outlet tunnels and spillways in the current manner.

WAPA will redouble their efforts to reduce fluctuations at the mainstem dams through the use of coal and gas generating units and by making adjustments to the wind power in the balancing area. They had already made adjustments to a portion of the wind generated by Basin Electric, but will now make adjustments to the remaining wind as needed. To date, they have resisted this step since they have to pay liquidated damages for the remaining wind energy if it is taken off-line.

They may also ask us to increase spills at the projects like we did over the past weekend. It may be cheaper for them to take the hydro off-line and lose that revenue source, than to pay the liquidated damages associated with the wind contracts.

We emphasized that our primary concerns were to minimize fluctuations in releases through the outlet tunnels and spillways, and to meet the daily targets in releases/generation with limited hourly fluctuations to minimize impacts to downstream locations.

We made it clear that decisions at this time cannot be made based on economics and that the current operation of the outlet tunnels and spillways is a dam safety issue.

VR,
Jody

Jody Farhat, P.E.
Chief, Missouri River Basin Water Management

[REDACTED]

Classification: UNCLASSIFIED
Caveats: NONE

Classification: UNCLASSIFIED
Caveats: NONE

[REDACTED] NWO

From: [REDACTED]
Sent: Monday, June 13, 2011 2:32 PM
To: Farhat, Jody S NWD02; [REDACTED]; Michael A NWD02; Stamm, Kevin D NWD02
Subject: FW: MAY 2011 Rainfall graphic (UNCLASSIFIED)
Attachments: may_2011_data.pdf

Classification: UNCLASSIFIED
Caveats: NONE

FYSA.

[REDACTED]
Reservoir Regulation Team Lead
Missouri River Basin Water Management,
Northwestern Division, USACE
[REDACTED]
[REDACTED]

-----Original Message-----

From: Daniel J. Virgillito [<mailto:Daniel.Virgillito@noaa.gov>]
Sent: Monday, June 13, 2011 2:27 PM
To: [REDACTED]
Subject: MAY 2011 Rainfall graphic

While working on our May 2011 water supply graphics ArcMap, I decided to compare the monthly precipitation to average yearly amounts. I have attached a pdf that shows the numbers. As we already know, pretty impressive in eastern Montana. Anything in 'color' represents areas that received 50% or greater of their yearly average rainfall during the month of May.

On 6/13/2011 10:59 AM, [REDACTED] wrote:

> Classification: UNCLASSIFIED
> Caveats: NONE
>
> Thanks. [REDACTED] has put together a very impressive graphic
> showing the areal extent of departure from normal. These recurrence
> intervals will complete it.

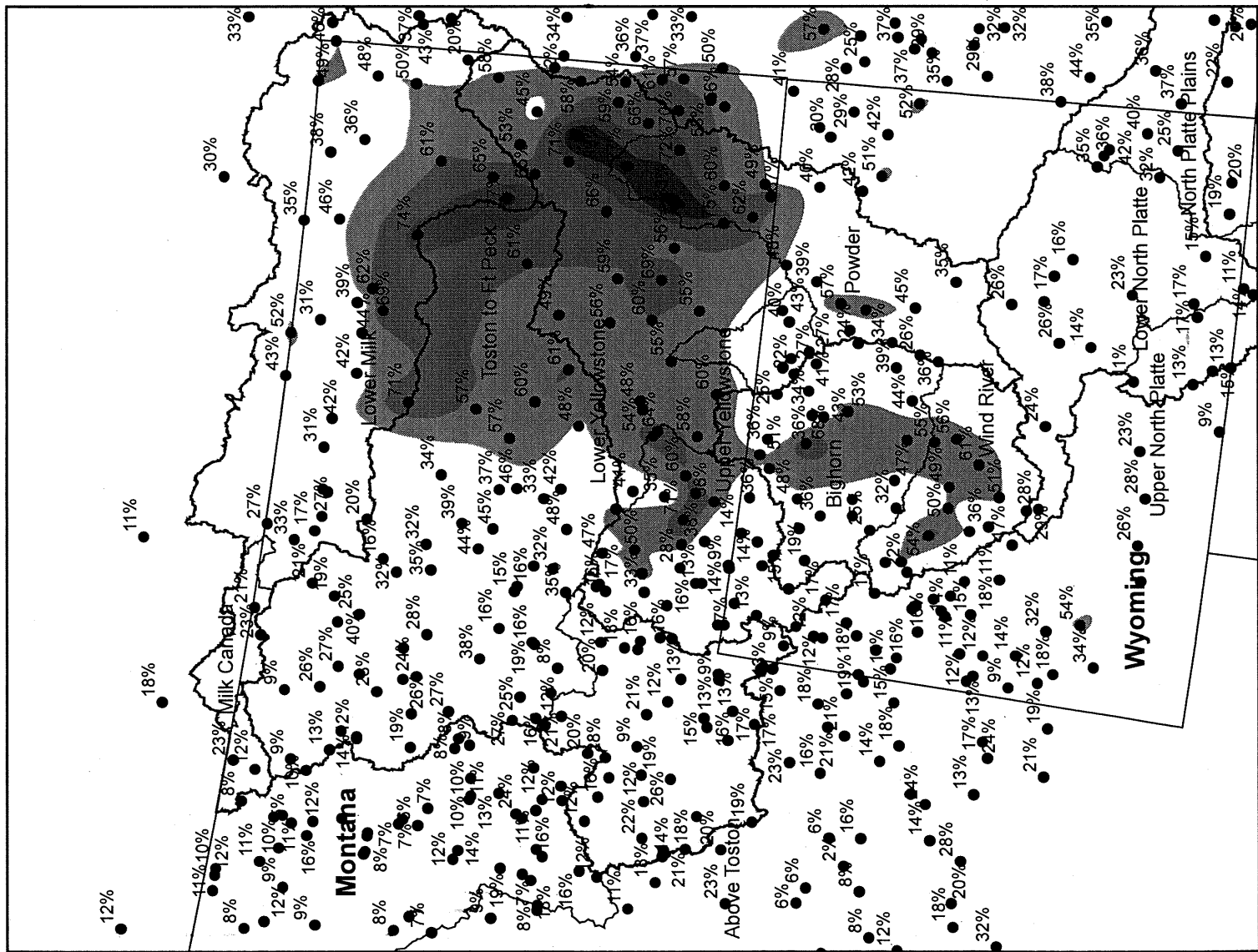
>
> [REDACTED]
>
> [REDACTED]
> Reservoir Regulation Team Lead
> Missouri River Basin Water Management, Northwestern Division, USACE
> [REDACTED]
> [REDACTED] (fax)
>

> -----Original Message-----

> From: Daniel J. Virgillito [<mailto:Daniel.Virgillito@noaa.gov>]
> Sent: Monday, June 13, 2011 10:55 AM
> To: [REDACTED]

> [REDACTED]
> Subject: Re: Recurrence Interval for MAY 2011 Rainfall
>
> I sent this attached spreadsheet with a list of 155 stations to
> Michelle last week...hopefully we will get some numbers back this week:
>
>
>
>
>
>
>
>
>
> I've attached the list with the coop numbers...it is in xlsx format.
>
> Let me know if it reads ok.
>
> Thanks again!!!
>
>
>
> On 6/8/2011 1:46 PM, Michelle Breckner wrote:
> Yes - thank you!
> :)
>
>
> -----
> Michelle Breckner
> Service Climatologist
> Western Regional Climate Center
> 2215 Raggio Parkway
> Reno, NV 89512-1095
> 775-674-7010 Phone
> 775-674-7001 Fax
> Monday - Friday, 8-4pm
>
> Classification: UNCLASSIFIED
> Caveats: NONE
>
>

Classification: UNCLASSIFIED
Caveats: NONE



May 2011 Precipitation as Percent of Yearly 1971-2000 Average

[REDACTED] NWO

From: [REDACTED]
Sent: Monday, June 13, 2011 2:19 PM
To: Thomas, Kimberly S NWO; [REDACTED] Smith, Thomas P COL HQ02;
[REDACTED]
Cc: [REDACTED]
Subject: Re: FLASH****URGENT****CCIR - Full Levee Breach - L-575 (UNCLASSIFIED)

Thx Kim, stay safe! Kd-a

BUILDING STRONG!

[REDACTED]
USACE
Director, Contingency Op and Homeland Security
[REDACTED]

----- Original Message -----

From: Thomas, Kimberly S NWO
To: [REDACTED] Smith, Thomas P COL HQ02; [REDACTED]
[REDACTED]
CC: CENWD-EOC NWD
Sent: Mon Jun 13 14:14:29 2011
Subject: FLASH****URGENT****CCIR - Full Levee Breach - L-575 (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: FOUO

All,

The MR L-575 breach is continuing to open. Based on a 300' breach, new staff gages, and the model calibrated to new survey data it has resulted in a new projected Water Surface Elevation of 918. The current temporary levees were designed to 916. Current estimates indicated the WSE will reach 916 in 48 hours.

Current Actions:

City is currently closing the two closure structures in the temporary levee around Hamburg. Hesco is enroute to be placed on top of the temporary measures to go to a new design elevation of 919. All contractor resources are engaged.

The sponsor has requested technical assistance to breach a downstream portion of the levee to minimally delay the time in which the area will fill with water although the area will fill to 916. The sponsor will be proceeding with this.

More information as it becomes available.

Thanks,
Kim

Kimberly S. Thomas
Chief, Readiness Branch
U.S. Army Corps of Engineers - Omaha District
1616 [REDACTED] Ave., STE 9000
Omaha, NE 68102
[REDACTED]
[REDACTED] 402-490-5045 Blackberry

Subject: FW: ****URGENT****CCIR - Full Levee Breach - L-575 (UNCLASSIFIED)

Subject: RE: ****URGENT****CCIR - Full Levee Breach - L-575 (UNCLASSIFIED) Auto forwarded by a Rule

Caveats: FOUO

All,

Please see first photos in from L-575 full breach.

Thanks,

Kim

Kimberly S. Thomas

Chief, Readiness Branch

U.S. Army Corps of Engineers - Omaha District

10000 CANTON AVE., Ste 2000

ME 68182

[illegible]

Subject: FW: ****URGENT****CCIR - Full Levee Breach - L-575 (UNCLASSIFIED)

Subject: ****URGENT****CCIR - Full Levee Breach - L-575 (UNCLASSIFIED) Auto forwarded by a Rule

Caveats: FOUO

All,

WHO: US Army Corps of Engineers, Omaha District

WHAT: Federal Levee Breach - Missouri River PL 84-99 Federal Levee - L-575, Operated and Maintained by a local levee sponsor, built by USACE.

WHEN: 13 June 2011 at 1000

WHERE: Near Hamburg, IA, River Mile 552, Atchison County, MO

WHY: A full levee breach has occurred on Missouri River Federal Levee L-575. The breach occurred just South of the previous three partial breaches. This is a new area and it does have a 10-15' wide full breach, the complete levee section is gone. The full breach occurred in approximately 5-6 minutes. The levee sponsor has removed all of his personnel and equipment out of the area. Rough numbers indicate approximately 7 days before the water will be in Hamburg. All State Emergency Management agencies have been notified as well as the local emergency managers. We should have photos shortly and they will be sent out. More information to follow as it becomes available.

The temporary Hamburg levee will be complete by 17 June, closure structure placement has been initiated.

Thanks,
Kim

Kimberly S. Thomas
Chief, Readiness Branch
U.S. Army Corps of Engineers - Omaha District

[REDACTED] Ste 8000

Omaha, NE 68102

[REDACTED]

[REDACTED] Blackberry

[REDACTED] kimberly.s.thomas@usace.army.mil

-----Original Message-----

From: [REDACTED]

Sent: Monday, June 13, 2011 10:07 AM

To: Thomas, Kimberly S NWO; [REDACTED] NWO; Buckley, Ryan B NWO; Brennan, Timothy J

[REDACTED] NWO; [REDACTED] NWO; [REDACTED] NWO

Subject: FW: L-575 Partial Breach (UNCLASSIFIED)

From: Thomas, Kimberly S NWO

Sent: Monday, June 13, 2011 10:06:56 AM

To: [REDACTED] NWO; [REDACTED] NWO

Cc: [REDACTED] NWO; [REDACTED] NWO

Subject: L-575 Partial Breach (UNCLASSIFIED) Auto forwarded by a Rule

Classification: UNCLASSIFIED

Caveats: FOUOWHO:

All,

A 4th partial breach has occurred on MR L-575 near Hamburg, IA at approximately 1000 this morning. First report indicates the partial breach is just South of the previous three and

has pinched itself off similar to the others. The sponsor has a dozer and is working to repair it and re-establish the cross section.

More information will be sent when available.

Thanks,
Kim

Kimberly S. Thomas
Chief, Readiness Branch
U.S. Army Corps of Engineers - Omaha District
[REDACTED]
Omaha, NE 68102

Classification: UNCLASSIFIED
Caveats: FOUO

Classification: UNCLASSIFIED
Caveats: FOUO

Classification: UNCLASSIFIED
Caveats: FOUO

Classification: UNCLASSIFIED
Caveats: FOUO

[REDACTED] NWO

From: [REDACTED]
Sent: Monday, June 13, 2011 2:18 PM
To: Farhat, Jody S NWD02
Subject: Web Update - Presentation (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Jody,
I updated the 2011 flood file on the external web site with the 12 June presentation as you requested.
[REDACTED]

Classification: UNCLASSIFIED
Caveats: NONE

[REDACTED]

From: Thomas, Kimberly S NWO
Sent: Monday, June 13, 2011 2:14 PM

To: [REDACTED] Smith, Thomas P COL HQ02; [REDACTED] Bernstauder, Alex C HQ02; Douglas, William F HQ02

Cc: [REDACTED]
Subject: FLASH****URGENT****CCIR - Full Levee Breach - L-575 (UNCLASSIFIED)

Classification: UNCLASSIFIED

All,

The MR L-575 breach is continuing to open. Based on a 300' breach, new staff gages, and the model calibrated to new survey data it has resulted in a new projected Water Surface Elevation of 918. The current temporary levees were designed to 916. Current estimates indicated the WSE will reach 916 in 48 hours.

Current Actions:
City is currently closing the two closure structures in the temporary levee around Hamburg. Hesco is enroute to be placed on top of the temporary measures to go to a new design elevation of 919. All contractor resources are engaged.

The sponsor has requested technical assistance to breach a downstream portion of the levee to minimally delay the time in which the area will fill with water although the area will fill to 916. The sponsor will be proceeding with this.

More information as it becomes available.

Thanks,
Kim

Kimberly S. Thomas
Chief, Readiness Branch
U.S. Army Corps of Engineers - Omaha District
[REDACTED]
Omaha, NE 68102

-----Original Message-----

From: [REDACTED]
Sent: Monday, June 13, 2011 11:19 AM
To: [REDACTED] NWO; [REDACTED] Phyllis F NWO; Buckley, Ryan M NWO; Brennan, Timothy NWO; [REDACTED] Christopher J NWO; [REDACTED] Eileen L NWO
Subject: FW: ****URGENT****CCIR - Full Levee Breach - L-575 (UNCLASSIFIED)

From: Thomas, Kimberly [mailto:kimberly.thomas@usda.gov]
Sent: Monday, June 13, 2011 11:19:04 AM
To: 'NWD-EOC-EOI-ALL' [mailto:nwd-EOC-EOI-ALL@usda.gov]
Cc: 'NWD-EOC NWD, MR3IC' [mailto:nwd-EOC-NWD-MR3IC@usda.gov]

Subject: RE: ****URGENT****CCIR - Full Levee Breach - L-575 (UNCLASSIFIED) Auto forwarded by a Rule

Classification: UNCLASSIFIED
Caveats: FOUO

All,

Please see first photos in from L-575 full breach.

Thanks,
Kim

Kimberly S. Thomas
Chief, Readiness Branch
U.S. Army Corps of Engineers - Omaha District
[REDACTED]
Omaha, NE 68102

[REDACTED]
kimberly.s.thomas@usace.army.mil

-----Original Message-----

From: [REDACTED] EOC NWO
Sent: Monday, June 13, 2011 10:46 AM
To: [REDACTED]; Phyllis P NWO; Buckley, Ryan M NWO; Brennan, Timothy J NWO; Christopher J NWO; Williamson, Eileen L NWO
Subject: FW: ****URGENT****CCIR - Full Levee Breach - L-575 (UNCLASSIFIED)

From: [REDACTED] NWO
Sent: Monday, June 13, 2011 10:45:42 AM
To: [REDACTED]
Cc: [REDACTED] NWO; MDTIC; DLI-HQ-DOC Internal
Subject: ****URGENT****CCIR - Full Levee Breach - L-575 (UNCLASSIFIED) Auto forwarded by a Rule

Classification: UNCLASSIFIED
Caveats: FOUO

All,

WHO: US Army Corps of Engineers, Omaha District
WHAT: Federal Levee Breach - Missouri River PL 84-99 Federal Levee - L-575, Operated and Maintained by a local levee sponsor, built by USACE.
WHEN: 13 June 2011 at 1000
WHERE: Near Hamburg, IA, River Mile 552, Atchison County, MO
WHY: A full levee breach has occurred on Missouri River Federal Levee L-575. The breach occurred just South of the previous three partial breaches. This is a new area and it does have a 10-15' wide full breach, the complete levee section is gone. The full breach occurred in approximately 5-6 minutes. The levee sponsor has removed all of his personnel and equipment out of the area. Rough numbers indicate approximately 7 days before the water will be in Hamburg. All State Emergency Management agencies have been notified as well as the local emergency managers. We should have photos shortly and they will be sent out. More information to follow as it becomes available.

The temporary Hamburg levee will be complete by 17 June, closure structure placement has been initiated.

Thanks,
Kim

~~Kimberly S. Thomas~~
Chief, Readiness Branch
U.S. Army Corps of Engineers - Omaha District
1616 Capitol Ave., Ste 9000
Omaha, NE 68102

~~253-2448 Office~~
~~253-2448 Blackberry~~
~~kimberly.s.thomas@usace.army.mil~~

-----Original Message-----

From: ~~EOC NWO~~
Sent: Monday, June 13, 2011 10:07 AM
To: Thomas, Kimberly S NWO; ~~Phyllis F NWO; Buckley, Ryan M NWO; Brennan, Timothy J~~
~~Williamson, Christopher J NWO; Williamson, Eileen L NWO~~
Subject: FW: L-575 Partial Breach (UNCLASSIFIED)

From: ~~Thomas, Kimberly~~ NWO
Sent: Monday, June 13, 2011 10:06:56 AM
To: ~~EOC NWO; EOC CMI; ALL~~
Cc: ~~EOC NWO; MRJIC~~
Subject: L-575 Partial Breach (UNCLASSIFIED) Auto forwarded by a Rule

Classification: UNCLASSIFIED
Caveats: FOUOWHO:

All,

A 4th partial breach has occurred on MR L-575 near Hamburg, IA at approximately 1000 this morning. First report indicates the partial breach is just South of the previous three and has pinched itself off similar to the others. The sponsor has a dozer and is working to repair it and re-establish the cross section.

More information will be sent when available.

Thanks,
Kim

~~Kimberly S. Thomas~~
Chief, Readiness Branch
U.S. Army Corps of Engineers - Omaha District
~~1616 Capitol Ave., Ste 9000~~
Omaha, NE 68102

~~253-2448 Office~~
~~253-2448 Blackberry~~
~~kimberly.s.thomas@usace.army.mil~~

Classification: UNCLASSIFIED
Caveats: FOUO

Classification: UNCLASSIFIED
Caveats: FOUO

Classification: UNCLASSIFIED
Caveats: FOUO

Classification: UNCLASSIFIED
Caveats: FOUO

[REDACTED] NWO

From: [REDACTED] NWO
Sent: Monday, June 13, 2011 2:07 PM
To: Farhat, Jody S NWD02
Subject: Reporter query (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Jody:

Please assist me with response

Jeff:

Currently, we do not have plans to increase releases beyond the 150,000 cfs out of Gavins Point Dam. The maximum cfs out of Gavins depends on a number of factors including (what factors?). The dam is designed to handle releases of 345,000 cfs out of the spillway, 60,000 cfs out of the outlet works and 36,000 cfs out of the powerhouse. Just want to stress again that our current release plans are not projected to exceed 150,000 cfs.

Thanks Jeff.

-----Original Message-----

From: JEFF DEYOUNG [mailto:deyoungster4@msn.com]
Sent: Monday, June 13, 2011 10:56 AM
To: Farmer, Monique L NWO
Subject: RE: Your question (UNCLASSIFIED)

Thanks, [REDACTED]

Had another question - a friend of mine said she heard on CSPAN some talk about possibly much more water being released out of the dams, possibly 500,000 cfs. I am guessing this is just some more misinformation, but guess I wanted to check and to see what the maximum cfs capacity is at Gavins Point.

> Subject: Your question (UNCLASSIFIED)
> Date: Sat, 11 Jun 2011 15:05:58 -0500
> From: Monique L Farmer [mailto:Monique.L.Farmer@usace.army.mil]
> To: deyoungster4@msn.com
>
> Classification: UNCLASSIFIED
> Caveats: NONE
>
> Jeff:
>
> We have not yet estimated the amount of farmland that may flood.
> Following a flood event, we typically develop statistics that

> determine the amount of flood damages prevented by our flood risk reduction measures.

>

> V r,

>

> [REDACTED]

> Media Relations Team Lead/Missouri River Joint Information Center U.S.

> Army Corps of Engineers Omaha District

> [REDACTED]

> [REDACTED]

>

> Find us on the Social media sites below:

>

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> www.youtube.com/OmahaUSACE

>

>

>

>

> Classification: UNCLASSIFIED

> Caveats: NONE

>

>

Classification: UNCLASSIFIED

Caveats: NONE

[REDACTED] NWO

From: [REDACTED]
Sent: Monday, June 13, 2011 2:05 PM
To: Hofmann, Anthony J COL NWK; [REDACTED]; Farhat, Jody S NWD02
Cc: [REDACTED]
Subject: RE: Deviation Modification for Lower Kansas Projects and Truman (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

We have resumed flood pool evacuation releases from the Kansas River Lakes based on the delayed arrival of the peak Gavins Point releases, as discussed below and in a conversation this morning with Kevin Grode. Milford is now releasing 9,000 cfs and projected to reach multipurpose pool in 14 days. We are limiting releases to 9,000 cfs to reduce the risk of outlet channel damage. Tuttle Creek is now releasing 8,000 cfs and projected to reach multipurpose pool in 10 days. Perry is releasing 5,000 cfs and projected to reach multipurpose pool in 7 days. Clinton is near multipurpose at this time and will remain at a low flow release of 21 cfs.

We will continue these operations in close coordination with the MRBWM - Reservoir Control Center. We are also closely monitoring the upstream gages to track the progression of the Gavins Point release peak flows.

[REDACTED]
Chief, Water Management Section
USACE - Kansas City District
[REDACTED]

-----Original Message-----

From: [REDACTED]
Sent: Monday, June 13, 2011 9:14 AM
To: Farhat, Jody S NWD02; Hofmann, Anthony J COL NWK; [REDACTED]; [REDACTED] McMahon, John R BG NWD; Anderson, G Witt NWD; Blechinger, Erik T NWO; Tipton, Robert A Col NWD; Austin-Smith, Christina A NWD
Cc: [REDACTED]
Subject: RE: Deviation Modification for Lower Kansas Projects and Truman (UNCLASSIFIED)

Jody, based on our conversation this morning we now understand that increased MR flow travel times to Rulo and south will be delayed due to overtopping of embankments north of Omaha. I will have Eric S. and Ed coordinate with Kevin the expected travel times to determine how much additional time we have to draw down Milford - we will resume releases today. Please let us know of any changes to MR travel times so we have time to adjust on the Kansas.

Appreciate all the good work you are doing!

Thanks, r

-----Original Message-----

From: Farhat, Jody S NWD02
Sent: Sunday, June 12, 2011 5:51 PM
To: Hofmann, Anthony J COL NWK; [REDACTED]; [REDACTED] McMahon, John R BG NWD; Anderson, G Witt NWD; Blechinger, Erik T NWO; Tipton, Robert A Col NWD; Austin-Smith, Christina A NWD
Cc: Farhat, Jody S NWD02; [REDACTED]

Subject: FW: Deviation Modification for Lower Kansas Projects and Truman (UNCLASSIFIED)

Classification: UNCLASSIFIED

Caveats: NONE

COL Hofmann,

Sir, in response to an issue raised on the NWK MCT call this afternoon, I offer the following information:

My office has been coordinating with the NWK Water Management office regarding evacuation of the tributary reservoirs prior to peak stages reaching the Kansas City area. On May 29th we received the attached deviation request, which was approved via email almost immediately and followed by a formal letter on May 31. When we learned last weekend that the district was cutting back releases from Milford and other tributary reservoirs in response to the increasing flows on the Missouri River, [REDACTED] sent the email below to Eric Shumate suggesting that the District continue to evacuate storage until the stages at Kansas City and/or Waverly reach the lower end of the published stage range with 150,000 cfs release from Gavins. Apparently this was discussed within NWK and the decision was made to reduce outflows to minimum release requirements.

It is still my position that the tributary reservoirs should be evacuated prior to peak stages being reached in the reach below Kansas City. Personally, I believe that the 29 May deviation request was sufficient to allow continued evacuation, but if the district would like to request a more specific deviation request, I would certainly approve it immediately.

The daily bulletin indicates 200,000 acre-feet of water remains to be evacuated from Milford. Based on discussions with Hydrologic Engineering in the Omaha District, they expect it will take a week or more for all the overbank storage between Gavins Point and Omaha to fill. Extend that philosophy to the reach from Omaha to Kansas City, and it appears there are several weeks remaining before peak stages from the 150,000 cfs release reach Kansas City.

I strongly encourage Kansas City District to resume evacuation of all tributary storage unless local conditions dictate another strategy.

VR,
Jody

-----Original Message-----

From: [REDACTED]
Sent: Sunday, June 12, 2011 4:12 PM
To: Farhat, Jody S NWD02
Subject: FW: Deviation Modification for Lower Kansas Projects and Truman (UNCLASSIFIED)

Classification: UNCLASSIFIED

Caveats: NONE

Jody,

The attached is the deviation we approved. Below is what I sent to Eric last Sunday. When I spoke with him last Monday he had indicated that he had spoken with Rex Goodnight and that they had decided to stick with their original plan.

[REDACTED]

[REDACTED]

Reservoir Regulation Team Lead

Missouri River Basin Water Management,
Northwestern Division, USACE

-----Original Message-----

From: [REDACTED] Kevin R NWD02

Sent: Sunday, June 05, 2011 6:00 PM

To: [REDACTED] Eric D NWK

Subject: Deviation Modification for Lower Kansas Projects and Truman (UNCLASSIFIED)

Classification: UNCLASSIFIED

Caveats: NONE

[REDACTED]

Just throwing some words out here for you to consider.

Reference attached deviation request from May 29, 2011 - Deviation Request from Missouri River Control Points).

The extreme and historical releases being made from Gavins Point are directly related to the reservoir conditions at the upper mainstem projects. All three upper projects are currently well into their exclusive flood control pools and are expected to remain in those zones, at least until August, and perhaps later. Currently, Fort Peck is in its surcharge zone and Garrison is within inches of being in its surcharge zone.

Given the extreme flooding conditions in the mainstem system, it is necessary that tributary reservoir regulation also be considered in order to maintain proper risk management. Attached is a planning tool, which outlines a likely range of flows of stages with a Gavins Point release of 150 kcfs, that was collaboratively developed by MRBWM, NWO, NWK and the MBRFC (National Weather Service). This planning tool is being used to assist with risk reduction measures along the Missouri River from Gavins Point to the mouth.

<http://www.nwo.usace.army.mil/html/op-e/maps/WaterMgt/Below%20Gavins%20-%20Range%20of%20Flows%20and%20Stages%20-%20Final.pdf>

Kansas City - 220 kcfs to 350 kcfs (30 ft to 39 ft) Waverly - 230 kcfs to 370 kcfs (27 ft to 31 ft) Boonville - 260 kcfs to 420 kcfs (27 ft to 33 ft) Hermann - 300 kcfs to 470 kcfs (27 ft to 33 ft)

Then reference the Corps' FUI stage forecast for the next 2 weeks:

<http://www.nwd-mr.usace.army.mil/rcc/reports/internal/showrep.cgi?3STAG1>

Since the NWS forecast only goes out 5 days, it isn't going to assist with this due to travel time from the projects to each of the Missouri River stations. We could use our FUI forecast or the NWS does produce a monthly forecast every Wednesday. Might be able to get them to produce it Monday and Friday also.

For the next 2 weeks the Missouri River stations, per this morning's FUI:

- ... Kansas City (MKCF) stage forecast does not exceed 28 feet.
- ... Waverly (WVMF) stage forecast does not exceed 26 feet.
- ... Boonville (BNMF) stage forecast does not exceed 24 feet.
- ... Hermann (HEMF) stage forecast does not exceed 23.5 feet.

Since all stations are below their respective lower end of the likely range, then releases from flood control storage zones can be made in such a manner that the total flood control

release does not exceed the lower stage level. In this case, it would be Waverly (26 feet to 27 feet) that would be the adjusted control point. Per the latest rating curve, there's about an 18 kcfs difference between 26 and 27 feet at Waverly. Or we could use flows. Doesn't matter - 6 of one, half dozen of the other. However, it seems that the stage is driving factor, not the flow.

How flood control storage releases are made should be based on each project's current level of flood control storage as well as downstream constraints, such as Milford and Tuttle Creek. However, 3 weeks from now, it may be a different project. We'll have to work out how we're going to monitor/adjust through the period ... revisit every few days or after a major precipitation event ... it'll be tricky due to the travel time.

Talk to you at 8:30.

[REDACTED]
[REDACTED]
[REDACTED]
Reservoir Regulation Team Lead
Missouri River Basin Water Management,
Northwestern Division, USACE
[REDACTED]
[REDACTED] (fax)

Classification: UNCLASSIFIED
Caveats: NONE

Classification: UNCLASSIFIED
Caveats: NONE

Classification: UNCLASSIFIED
Caveats: NONE

Classification: UNCLASSIFIED
Caveats: NONE

[REDACTED] NWO

From: Tipton, Robert A Col NWD
Sent: Monday, June 13, 2011 2:05 PM
To: Hofmann, Anthony J COL NWK; McMahon, John R BG NWD
Cc: Ruch, Robert J COL NWO; Farhat, Jody S NWD02; Blechinger, Erik T NWO; Leighow, John K NWD; Anderson, G Witt NWD; [REDACTED] NWK; [REDACTED] NWK
Subject: Re: CCIR - Non-federal Levee Reported Breach at Union Township (UNCLASSIFIED)

Tony - please confirm whether the levee is in the PL 84-99 program, and if so, when was it last inspected. I am tracking that this one is in the program -- but could be wrong.

We will also need to know impacts (agricultural inundation vs. Infrastructure that may be threatened). Then finally actions being taken by locals and state.

I realize that some of this will come as the situation develops - of immediate interest is whether it is in the federal program or not.

These are typically what the senior leaders at HQ will want to know when we send these up.

Bob

Message sent via my BlackBerry Wireless Device

----- Original Message -----

From: Hofmann, Anthony J COL NWK
To: McMahon, John R BG NWD
Cc: Ruch, Robert J COL NWO; Tipton, Robert A Col NWD; Farhat, Jody S NWD02; Blechinger, Erik T NWO; Leighow, John K NWD; Anderson, G Witt NWD; [REDACTED] NWK; [REDACTED] NWK
Sent: Mon Jun 13 11:00:03 2011
Subject: RE: CCIR - Non-federal Levee Reported Breach at Union Township (UNCLASSIFIED)

Sir-

I was just informed that a non-federal levee in Union Township has breached. This is between miles L505-508 and is a levee that had been breached during last year's high water events. Not sure at this time if it is overtopped.

We are working to get additional information and will inform all of this when complete. Cliff Sanders, who received accolades at MLDDA conference, provided the report below and is on it.

More to follow.

Again, this is a non-federal levee that has had issues in the past.

V/r,

Tony

Building Strong!

Colonel Anthony J. Hofmann, PMP
Commander, Kansas City District
U.S. Army Corps of Engineers

[REDACTED] (P) 389-2827

[REDACTED] (P) 389-2827

<http://www.nwk.usace.army.mil/>

-----Original Message-----

From: [REDACTED]
Sent: Monday, June 13, 2011 12:50 PM
To: Hofmann, Anthony J COL NWK; DII - NWK CMT [REDACTED]
Subject: CCIR - Reported Breach at Union Township (UNCLASSIFIED)
Importance: High

Sir - per Cliff's email Union Township has breached not known if overtopped. Will provide pertinents when I return from lunch.

From: [REDACTED]
To: [REDACTED]
Sent: Mon Jun 13 10:42:25 2011
Subject: Reported Breach at Union Township (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Was notified by Sponsor president about 30 minutes ago that non-Federal levee unit Union Township has suffered a breach downstream of COE landward setback. Sponsor requested permission to breach levee at lower to prevent further damage and provide relief to temporary levee on high shelf. I granted them permission to do so. Will provide more details as they become available.

Glasgow Project Office

Office: [REDACTED]

Cell: [REDACTED]

Classification: UNCLASSIFIED
Caveats: NONE

[REDACTED] NWO

Farhat, Jody S

2; Farhat, Jody S NWD02;

Missouri River Basin Water Management Division Situation Report of 6-13-11
(UNCLASSIFIED)

Missouri River Basin Water Management Situation Report 6-13-11.docx

Caveats: NONE

Today's NWD Water Management situation report is attached.

roy.t.mcallister@usace.army.mil

Caveats: NONE

Missouri River Basin Water Management Situation Report – 6-13-11

Reservoir Conditions

The upper three reservoirs of the Missouri River Mainstem Reservoir System provide the bulk of the storage of water. All three are in their exclusive flood control zones, with Fort Peck passing its spillway crest (continuing up on raised spillway gates) and the other two being near their spillway crests. Table 1 summarizes the situation as of 0000 hours this morning. Relatively high inflows continue to occur into Fort Peck Reservoir from primarily rains earlier in the week. More details on the reservoirs can be found on the daily bulletin prepared by the Missouri River Basin Water Management Division at: <http://www.nwd-mr.usace.army.mil/rcc/reports/showrep.cgi?4BULL0MR1>.

Table 1. Key Reservoir Data (through 0000 hrs 6/13/11)

Reservoir	Inflow kcfs	Outflow kcfs	Top of Spillway	Current Level feet msl	24-hr Change feet
			Gates feet msl		
Fort Peck	89.0	63.7	2250	2251.9	0.2
Garrison	142.0	135.3	1854	1853.3	0.3
Oahe	122.0	150.4	1620	1618.3	-0.3
Big Bend	150.0	149.4	1423	1420.0	0.4
Fort Randall	155.0	137.4	1375	1362.5	0.3
Gavins Point	141.0	144.9	1210	1207.4	-0.3

Based on the current level data on the upper three reservoirs, the amount of remaining storage has been changing in its distribution among the upper three, larger reservoirs. Fort Peck has become more negative as water is stored higher on the raised spillway gates (surcharged above exclusive flood control). Also, less of the exclusive flood control storage is being used at Garrison and Oahe. The lower three reservoirs have much less capability to store the inflows that are coming into the Missouri River Mainstem Reservoir System, with Fort Randall Reservoir having the greater amount. As of today, the stored water has not yet entered the exclusive flood control zones of the three smaller reservoirs; therefore, 100 percent of their exclusive flood control storage remains available. Table 2 summarizes the storage volumes of all six System reservoirs, with the last column listing the amount of exclusive flood control storage that remains as of today. Spillways are now being used at five of the six reservoirs, with no plans to use the Oahe spillway at this time. Because the spillway gates are open at Fort Peck and the reservoir is now being surcharged over the top of the exclusive flood control zone, the percent of exclusive has become negative. A positive number must always appear for Oahe as long as the spillway gates remain closed at that project. To date, Garrison Reservoir has been kept below its top of exclusive flood control, which is elevation 1854 feet; however, inflows are now forecasted to be greater than the anticipated releases, meaning that that reservoir will rise above 1854 feet and become surcharged, just as Fort Peck Reservoir is surcharged at this time.

Table 2. Reservoir Storage Data (through 0000 hrs 6/13/11)

Reservoir	Current	Total	Remaining	Exclusive	% Excl Left
	kAF	kAF	kAF	kAF	
Fort Peck	18,945	18,463	-482	971	-50
Garrison	23,472	23,821	349	1,489	23
Oahe	22,565	23,137	572	1,102	52
Big Bend	1,605	1,798	193	60	100
Fort Randall	4,206	5,418	1,212	985	100
Gavins Point	377	450	73	57	100

Releases from all six reservoirs are currently exceeding records prior to 2011. Table 3 provides release data for all six reservoirs to provide some perspective on the changes that will be happening over the next 2 weeks. Note that the release from Fort Peck has been increased to 65 kcfs today and will be held at that level for at least the next week before it is returned to 60 kcfs. Other than that, the releases 1 week out will be at the currently anticipated maximum releases at the other five reservoirs. A full listing of the data through mid-July is available at: <http://www.nwd-mr.usace.army.mil/rcc/reports/twout.html>.

Table 3. Reservoir Release Comparisons (through 0000 hours 6/13/11)

Reservoir	Yesterday	Forecast	7 days out	14 days out	Pre-2011
	kcfs	Today	20 June	27 June	Record
	kcfs	kcfs	kcfs	kcfs	kcfs
Fort Peck	63.7	65	60	60	35
Garrison	135.3	140	150	150	65
Oahe	150.4	150	150	150	59
Big Bend	149.4	150	150	150	74
Fort Randall	137.4	140	148	148	67
Gavins Point	144.9	145	150	150	70

River Conditions

Levees have been or are currently being constructed by the Corps at numerous locations, resulting primarily from the releases from Garrison, Oahe, and Gavins Point Dams. Many communities along the lower Missouri River are currently experiencing Missouri River flows that are above flood stage by several feet. The flood stages currently being experienced will be exceeded as Missouri River Mainstem Reservoir System releases increase over the next few weeks to pass the anticipated inflows from mountain snowpack runoff and heavy rains in the Missouri River basin. Table 4 summarizes the current conditions as of 0600 hours this morning and the Corps' current forecast for crest stages. Note that the stage at Pierre is currently just above the forecasted crest elevation for the current upstream release of 150 kcfs.

Table 4. Missouri River Stage Data for 6/13/11 at 0600 CDT

Location	Flood Stage	Current Stage	Forecast Crest Stage	Date of Crest Stage
Bismarck, ND	16	17.8	20-21	mid-Jun
Pierre, SD	13	18.9	18.7	mid-Jun
Sioux City, IA	30	33.1	35-37	mid-Jun thru July
Decatur, NE	35	37.6	40-42	mid-Jun thru July
Omaha, NE	29	32.0	34-36	mid-Jun thru July
Nebraska City, NE	18	24.5	27-28+	mid-Jun thru July
St. Joseph, MO	17	23.3	27-32	mid-Jun thru July
Kansas City, MO	32	24.7	30-39	mid-Jun thru July
Waverly, MO	20	23.7	27-31	mid-Jun thru July
Boonville, MO	21	22.1	27-33	mid-Jun thru July
Hermann, MO	21	22.6	27-33	mid-Jun thru July

Figures 1 and 2 present the plots of the 0600 hour stages at Bismarck and Pierre, respectively. The stages at Bismarck have not reached the initial estimated levels as the Garrison Reservoir releases have increased. The reduction is likely due to the scouring of the channel as the flows are well above the levels in recent years. The stages at Pierre have closely followed the estimated levels, being just slightly over the initial estimate for crest elevation, as the upstream Oahe Reservoir releases have reached the 150-kcfs level. The stages at both cities are still 3 to 4 feet below the constructed levee crests.

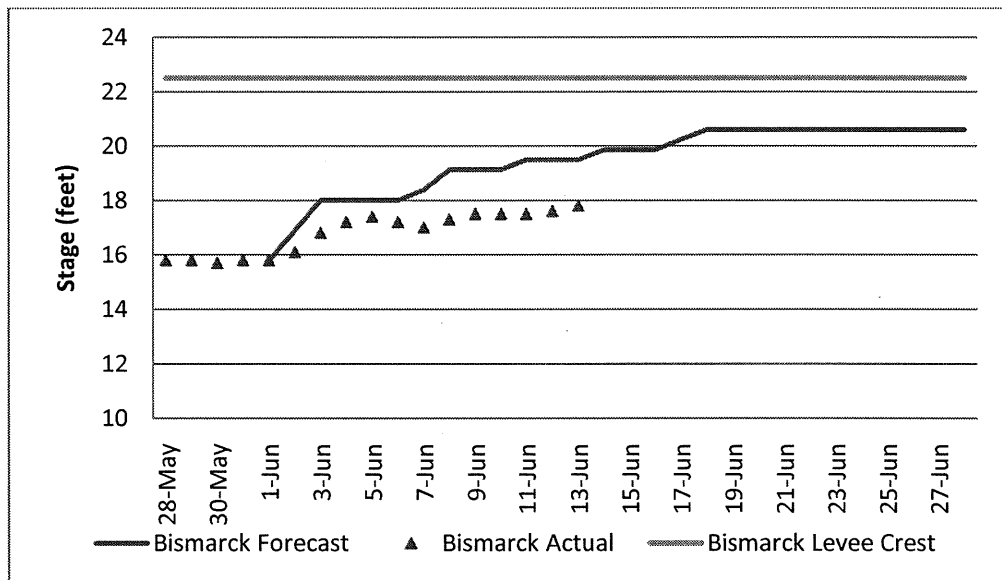


Figure 1. Missouri River stages at Bismarck, North Dakota.

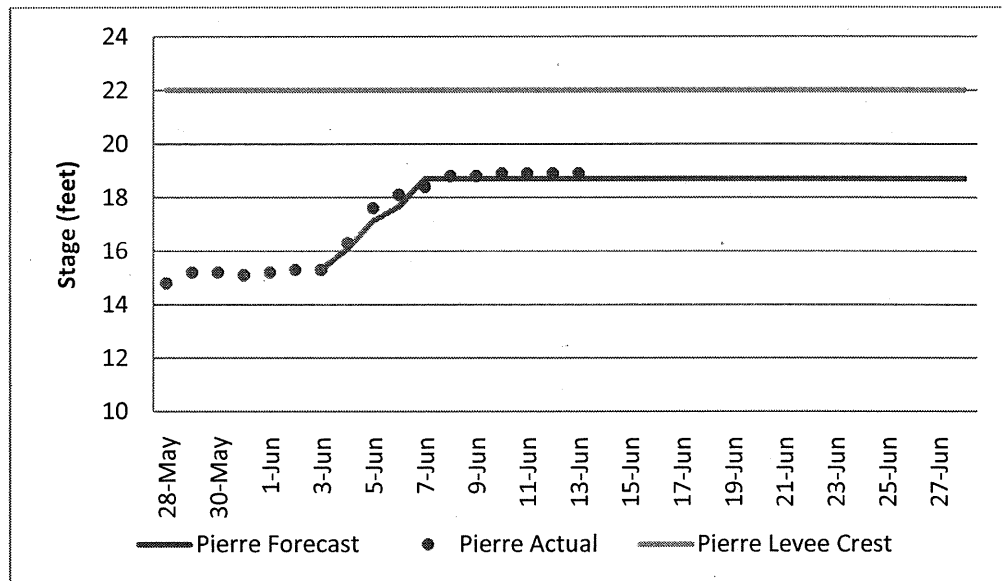


Figure 2. Missouri River stages at Pierre, South Dakota.

Information on Current Mountain Snowpack and Forecasted Rainfall

Releases from the System reservoirs are based on snowpack and rainfall forecasts in the Missouri River basin. An updated snowfall forecast has not yet been prepared today; however, the Hydrologic Prediction Center (HPC) of NOAA prepares a rainfall forecast daily for up to the next 5 days, with an accumulated figure also presented on its website. The next 5 days do not look good as widespread rain is forecasted for much of the Missouri River Basin, including heavier rainfall in North Dakota, South Dakota, and in a large area of the lower basin. Figure 3 is the accumulated 5-day rainfall forecast for today by HPC, and Figure 4 is Friday's mountain snowpack update by the Corps.

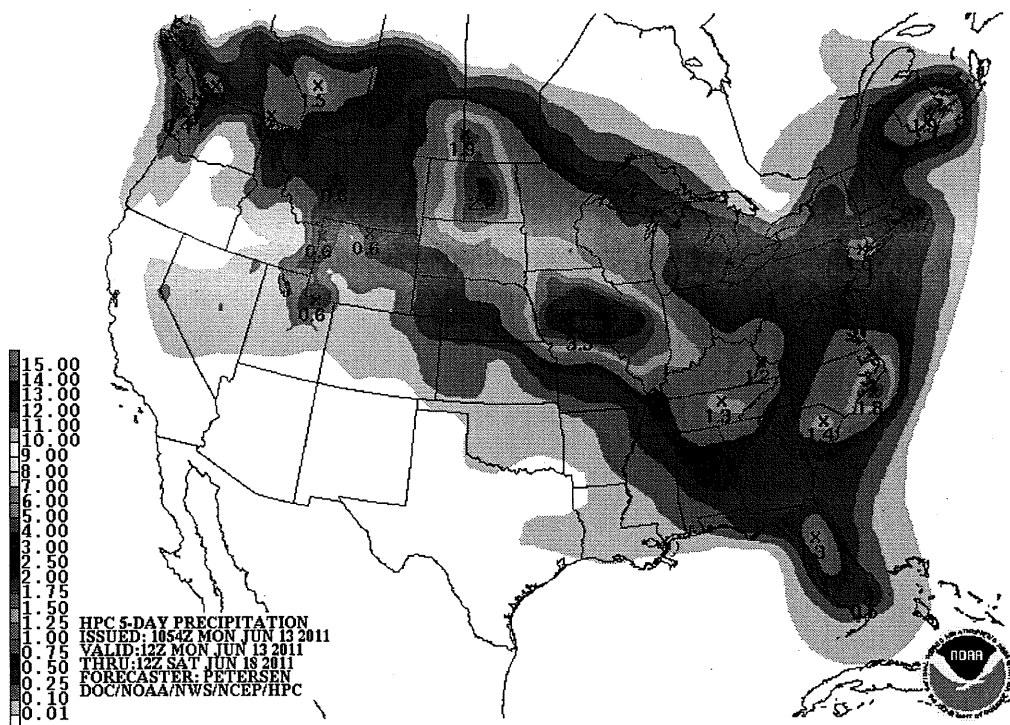


Figure 3. 5-day total QPF ending 0700 Saturday, June 18, 2011.

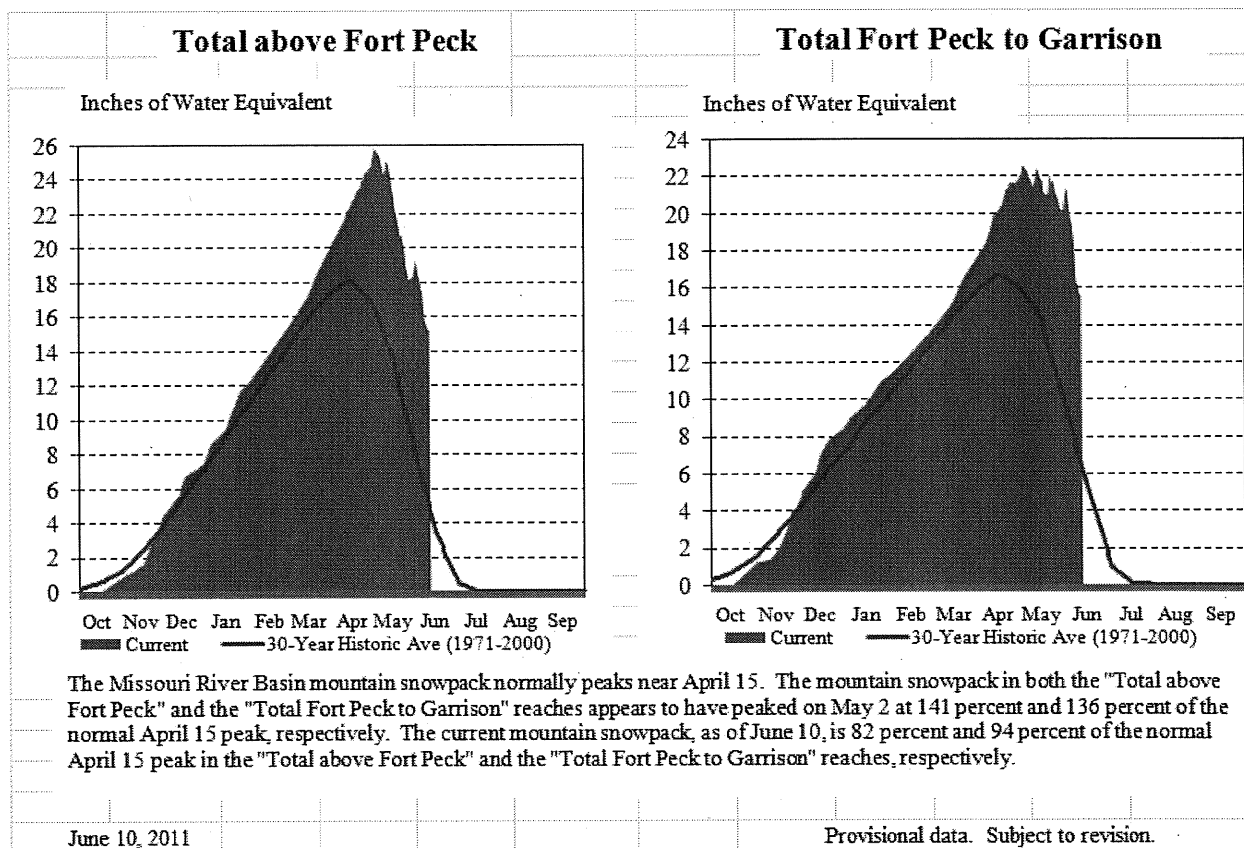


Figure 4. Missouri River basin mountain snowpack water content summary, 2010-2011 – June 10, 2011.

Current Actions and Notable Information

Levee construction for six cities is basically completed to prepare for the high flows on the Missouri River that will result from the increased releases from the Missouri River Mainstem System reservoirs. The Omaha District has been working with the cities of Bismarck/Mandan, ND, Pierre/Ft. Pierre, SD, Dakota Dunes, SD, and South Sioux City, NE to construct levees to limit flood impacts to those cities. Floodplain evacuations have been ongoing for many lower-lying areas along the lower Missouri River. A levee is also currently being constructed to protect Hamburg, Iowa. A full breach of a 10- to 15-foot section of the L-575 levee occurred this morning as a result of the fourth slump in the past 2 weeks. The Hamburg levee is currently anticipated to be completed by Friday, June 17. A required closure structure is currently being placed. The failures of this levee have occurred at river stages just under those of 2010, with a rise of the nearby Nebraska City gage by 0.3 feet since yesterday.

Figure 5 is a plot showing the Nebraska City 0600 stages for 2010 and 2011 (through today), both years with high river stages. This figure shows that the river level rose over half a foot the last 2 days after it had been relatively static for the previous 14 days. The forecasts for river stages at Nebraska City for the next week are to be at 25.1 feet by next Friday, June 17, which is the level they rose to in 2010.

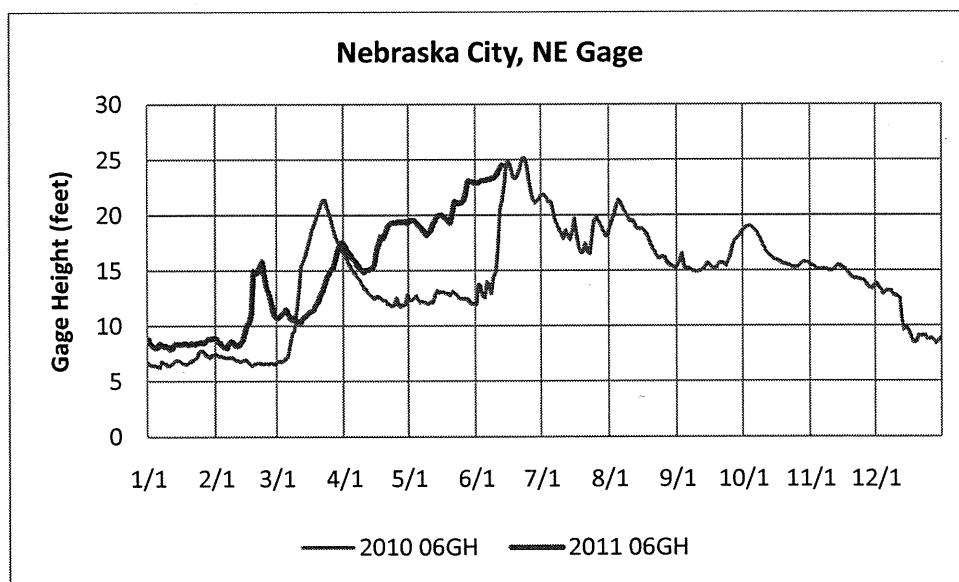


Figure 5. River stages at Nebraska City, Nebraska for 2010 and 2011.

Floodplain inundation maps have been posted by the Omaha District to identify the areas of potential flooding for the emergency managers and the public. The Kansas City District's floodplain inundation maps are now available on its Flood Response Information website. Overtopping of levees information is also available from both districts.

North and South Dakota experienced heavy rains yesterday and over night. Figure 6 shows the amount of rain that fell in the basin and surrounding area of the Central Region of the United States.

NWS Central Region: Current 1-Day Observed Precipitation
Valid at 6/13/2011 1200 UTC- Created 6/13/11 17:41 UTC

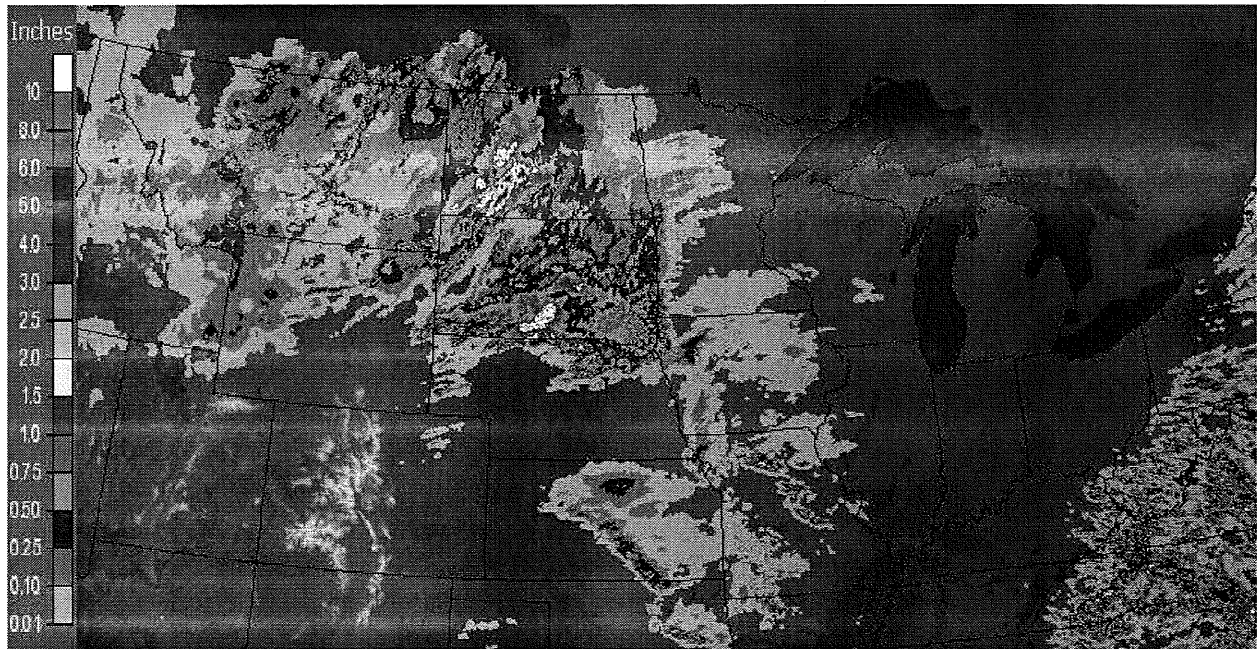


Figure 6. Rainfall on the Central Region of the United States for June 13, 2011.

[REDACTED] NWO

From: McMahon, John R BG NWD
Sent: Monday, June 13, 2011 2:00 PM
To: Hofmann, Anthony J COL NWK
Cc: Ruch, Robert J COL NWO; Tipton, Robert A Col NWD; Farhat, Jody S NWD02; Blechinger, Erik T NWO; [REDACTED] Anderson, G Witt NWD; [REDACTED] Evers, Jason A MAJ NWK
Subject: Re: CCIR - Non-federal Levee Reported Breach at Union Township (UNCLASSIFIED)

Roger. Thanks.

----- Original Message -----

From: Hofmann, Anthony J COL NWK
To: McMahon, John R BG NWD
Cc: Ruch, Robert J COL NWO; Tipton, Robert A Col NWD; Farhat, Jody S NWD02; Blechinger, Erik T NWO; [REDACTED] Anderson, G Witt NWD; [REDACTED] Evers, Jason A MAJ NWK
Sent: Mon Jun 13 11:00:03 2011
Subject: RE: CCIR - Non-federal Levee Reported Breach at Union Township (UNCLASSIFIED)

Sir-
I was just informed that a non-federal levee in Union Township has breached. This is between miles L505-508 and is a levee that had been breached during last year's high water events. Not sure at this time if it is overtopped.

We are working to get additional information and will inform all of this when complete. [REDACTED], who received accolades at MLDDA conference, provided the report below and is on it.

More to follow.
Again, this is a non-federal levee that has had issues in the past.
V/r,
Tony

Building Strong!

Colonel Anthony J. Hofmann, PMP
Commander, Kansas City District
U.S. Army Corps of Engineers

[REDACTED]
<http://www.nwk.usace.army.mil/>

-----Original Message-----

From: [REDACTED]
Sent: Monday, June 13, 2011 12:50 PM
To: Hofmann, Anthony J COL NWK; [REDACTED]
Subject: CCIR - Reported Breach at Union Township (UNCLASSIFIED)
Importance: High

Sir - per Cliff's email Union Township has breached not known if overtopped. Will provide pertinent info when I return from lunch.

From: S [REDACTED] Clifford W NMK
To: [REDACTED] Eugene J NMK; Marko Joshua A NMK
Sent: Mon Jun 13 10:42:25 2011
Subject: Reported Breach at Union Township (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Was notified by Sponsor president about 30 minutes ago that non-Federal levee unit Union Township has suffered a breach downstream of COE landward setback. Sponsor requested permission to breach levee at lower to prevent further damage and provide relief to temporary levee on high shelf. I granted them permission to do so. Will provide more details as they become available.

Glasgow Project Office

Office: [REDACTED]

Cell: [REDACTED]

Classification: UNCLASSIFIED
Caveats: NONE

NWO

From: [REDACTED] NWD
Sent: Monday, June 13, 2011 1:36 PM
To: Kneuveen [REDACTED] Thomas, Kimberly S NWO; [REDACTED] John K NWD
Cc: Blechinger, Erik I NWO; Anderson, G Witt NWD; Tipton, Robert A Col NWD; Hofmann, Anthony J COL NWK; [REDACTED] K NWK; Ruch, Robert J COL NWO; [REDACTED] Farhat, Jody S NWD02
Subject: Updated Spring 2011 Releases Talking points (UNCLASSIFIED)
Attachments: 2011 Release Schedule TPs.docx

Classification: UNCLASSIFIED
Caveats: NONE

All:

These talking points have been refined slightly per input from Witt for your use as appropriate.

v/r, [REDACTED]

[REDACTED]
Attorney/Advisor, U.S. Army Corps of Engineers Office of Counsel, Northwestern Division,
Portland OR [REDACTED] Attorney Client and/or Attorney Work Product-- DO NOT RELEASE UNDER
FOIA OR OUTSIDE USACE)

Classification: UNCLASSIFIED
Caveats: NONE

UPDATED: 2011 Release Schedule:

Releases from the Missouri River dams last fall and throughout the winter of 2010 were above normal. All flood waters from 2010 were released in time for the 2011 runoff season. 2010 was the third highest water year on record in the Missouri River Basin.

On 28 January 2011, the full flood capacity of the Missouri River reservoir system was available for this year's runoff season (reservoir was at desired 56.8 Million Acre Feet). At that point, and all the way through the first of May, we had no reason to think we needed to increase releases beyond normal levels.

The current need for high releases is due to a perfect storm: 1) plains snow; 2) extraordinary rainfall in eastern Montana, Northern Wyoming and the western Dakota in one month (300% of normal in May); and 3) additional mountain snowpack accumulation to record levels in May and a delayed melt.

The May 2011 runoff into the Missouri River Basin above Sioux City was 10.5 MAF – our normal May runoff based on historical records is only 3.3 MAF. This was the second highest single month of runoff since 1898. The only higher was in 1952 with 13.2 MAF in April. Not only is the May inflow unprecedented, but the yearly inflow is now forecast to be 54.6 MAF, more than twice the normal 24.8 MAF, and will be the highest ever.

Regulation of the reservoir system is in accordance with the Master Manual and it is not based on a worse-case scenario; it is managed for a reasonable range of potential runoff.

Answers to frequently asked 2011 Release Schedule Questions:

Why didn't you release more water earlier in the year?

Answer: At no time prior to the repeated rounds of heavy rain in the Upper Basin in May, resulting in record single-month inflows into our System, did we have reason to expect record releases. Immediately after this rainfall event we began incrementally stepping up our releases in a controlled manner, while still allowing people downstream to prepare for a record runoff water year.

Didn't you say you factor the weather forecast into your release schedule?

Answer: We do – every month we update our regulation forecast to reflect current and projected conditions. Unfortunately, no one had the crystal ball that predicted the record rains in a two week period in Montana.

How long will you continue at the projected 150,000 cfs release rate?

Answer: These peak releases will likely extend well into August. We need to maintain these high releases until the reservoirs are back down to a manageable level. The other guiding principle is that we want to have the releases in the fall at a low enough level for things to dry out and repair work to start before winter. This applies both to our mainstem dams and all the levees downstream.

Prepared by: MRJIC, 13 June 2011

Approved by: Erik Blechinger/Jody Farhat

NWO

From: [REDACTED]
Sent: Monday, June 13, 2011 1:21 PM
To: Farhat, Jody S NWD02
Subject: FW: Missouri River Reservoir Releases (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

And his more detailed question emerges..

-----Original Message-----

From: Matousek, Mike [mailto:Mike.Matousek@mail.house.gov]
Sent: Monday, June 13, 2011 1:19 PM
To: [REDACTED]
Subject: RE: Missouri River Reservoir Releases (UNCLASSIFIED)

I can't remember where we left off on this, but does the Corps keep flooding statistics? Meaning, would the Corps have data available to show how many times locations in the lower river flood vs. locations in the upper river flood?

The statement has been made that upper river locations never flood because when it gets to that point the Corps releases more water, thus only affecting the lower river folks.

Mike

-----Original Message-----

From: [REDACTED] [mailto:Amy.E.Blair@usace.army.mil]
Sent: Monday, June 06, 2011 7:53 PM
To: Matousek, Mike
Subject: RE: Missouri River Reservoir Releases (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Can you be a little bit more specific as to what you mean?

-----Original Message-----

From: Matousek, Mike [mailto:Mike.Matousek@mail.house.gov]
Sent: Monday, June 06, 2011 6:51 PM
To: [REDACTED]
Subject: Re: Missouri River Reservoir Releases

Thanks amy. Does the corps have statistics on upper river flooding vs lower river flooding?

Sent using BlackBerry

----- Original Message -----

From: [REDACTED] [mailto:David.L.Combs@usace.army.mil]
Sent: Monday, June 06, 2011 07:31 PM
To: Matousek, Mike
Cc: [REDACTED]

Subject: Missouri River Reservoir Releases

Mike, I am not sure if you are participating in the CODEL calls at 6 pm CDT, but on the call tonight someone asked to what degree we are operating for fish and wildlife. Jodi Farhat of RCC stated that since mid-August 2010 all releases have been based solely on flood control.

I thought this piece of info would be good for you to have in mind.

[REDACTED]
USACE-Kansas City District
[REDACTED]

Message sent via my BlackBerry Wireless Device

Classification: UNCLASSIFIED

Caveats: NONE

Classification: UNCLASSIFIED

Caveats: NONE

[REDACTED] NWO

From: [REDACTED]
Sent: Monday, June 13, 2011 1:11 PM
To: [REDACTED]
Subject: FW: Picture of failure of levee #575
Attachments: Picture of failure of levee #575

This is another picture of levee #575 Thanks to [REDACTED] for sharing this with us.

Thanks for your time.
[REDACTED]

From: Rebecca.Kern@noaa.gov [mailto:Rebecca.Kern@noaa.gov]
Sent: Monday, June 13, 2011 11:32 AM
To: [REDACTED]
Subject: Fwd: Picture of failure of levee #575

From: Jeff.Zogg@noaa.gov
Sent: Monday, June 13, 2011 11:23 AM
To: floodops@noaa.gov
Subject: Picture of failure of levee #575
Attachments: FW:

Attached is a picture of the levee #575 failure. The breach width is growing. The breach occurred ~1/2 mile south of the IA-MO border. No repairs to #575 will be made. The water will take ~2 days to reach Hamburg. The completion of the backup levee (Ditch #6) should take ~2 days. Thus it is a race against time for the backup levee.

Jeff Z / DMX

NWO

From: Paoli, Jon [HSEMD] [jonathan.paoli@iowa.gov]
Sent: Monday, June 13, 2011 11:11 AM
To: Tucker, Rodney [DNR]; Jeff Zogg (Jeff.zogg@noaa.gov)
Cc: 'Jeff Zogg'
Subject: FW:
Attachments: Resampled_2011-06-13_10-31-42_280.jpg

From: Hall, Pat [HSEMD]
Sent: Monday, June 13, 2011 11:05 AM
To: Hill, Derek [HSEMD]
Subject: FW:

Breach S of Hamburg

From: 5155098679@vzwpx.com [mailto:5155098679@vzwpx.com]
Sent: Monday, June 13, 2011 10:32 AM
To: Hall, Pat [HSEMD]
Subject:



[REDACTED] NWO

From: [REDACTED]
Sent: Monday, June 13, 2011 12:50 PM
To: Farhat, Jody S NWD02; [REDACTED]
Cc: [REDACTED]; [REDACTED]; [REDACTED]
Subject: RE: Gate Questions (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: FOUO

That does not mean we condone utilizing the surcharge... :)

-----Original Message-----

From: Farhat, Jody S NWD02
Sent: Monday, June 13, 2011 12:28 PM
To: [REDACTED]
Cc: [REDACTED]; [REDACTED]; [REDACTED]
Subject: RE: Gate Questions (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: FOUO

[REDACTED] and [REDACTED] - thanks, this is great information and will do for now.

Jody

-----Original Message-----

From: [REDACTED]
Sent: Monday, June 13, 2011 12:26 PM
To: [REDACTED]
Cc: Farhat, Jody S NWD02; [REDACTED]; [REDACTED]
Subject: RE: Gate Questions (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: FOUO

Thanks [REDACTED]

That should suffice. With our current 3 week forecast, we'd be close to having to back off the regulating tunnel releases and shift some over to the spillway in order to provide the needed surcharge. Jody, if you need anything else just let us know.
Todd

-----Original Message-----

From: [REDACTED]
Sent: Monday, June 13, 2011 12:21 PM
To: [REDACTED]
Cc: Farhat, Jody S NWD02
Subject: RE: Gate Questions (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: FOUO

[REDACTED]
The information you requested is as follows:

1) Four units running, regulating tunnels at capacity (assuming 85,000 cfs is maximum capacity).

Plant - 31,000 cfs

Tunnels - 85,000 cfs

Spillway - 34,500 cfs (24 gates at 1', and 4 gates at 2')

2) Four units running, regulating tunnels closed.

Plant - 31,000 cfs

Tunnels - 0 cfs

Spillway - 120,500 (28 gates at 4')

3) Plant and regulating tunnels shutdown, all releases via spillway.

Plant - 0 cfs

Tunnels - 0 cfs

Spillway - 150,200 (28 gates at 5')

If you need more information, I am available to discuss.

-----Original Message-----

From: [REDACTED]

Sent: Monday, June 13, 2011 8:41 AM

To: [REDACTED]

Cc: Farhat, Jody S NWD02

Subject: Gate Questions (UNCLASSIFIED)

Classification: UNCLASSIFIED

Caveats: FOUO

I'd like to know how high we'd have the spillway gates raised, if they were raised evenly to provide surcharge on the reservoir, and we were releasing 150,000 cfs for the following scenarios:

1) Four units running, regulating tunnels at capacity.

2) Four units running, regulating tunnels closed.

3) Plant and regulating tunnels shutdown, all releases via spillway.

Operations Project Manager

Garrison Project

Classification: UNCLASSIFIED

Caveats: FOUO

Classification: UNCLASSIFIED

Caveats: FOUO

Classification: UNCLASSIFIED

Caveats: FOUO

[REDACTED] NWO

From: [REDACTED]
Sent: Monday, June 13, 2011 12:40 PM
To: Farhat, Jody S NWD02; [REDACTED] M SAW
Subject: RE: A few questions (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

[REDACTED]

The free board estimates are based on the 2008 levee profile surveys, that were obtained as part of the national Levee Data Base, compared to our modeled water surface elevations.

It is important to note that the modeled water surface elevations represent a single flow scenario (tributary inflow). The actual stage may be higher or lower.

[REDACTED]

-----Original Message-----
From: Farhat, Jody S NWD02
Sent: Monday, June 13, 2011 12:25 PM
To: [REDACTED]
Cc: [REDACTED] John I NWO
Subject: RE: A few questions (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

[REDACTED]

150,000 cfs is our currently anticipated peak release. At this time we don't anticipate going any higher, but if the upper basin continues to be hit with much above normal rainfall, that number could potentially increase. The dams can safely pass much higher releases, but we have no intention of utilizing the full capacity. For example, the spillway at Gavins Point can pass 345,000 cfs.

I have limited knowledge of the levees, but I know the Omaha District has recently done some freeboard surveys. I'm not sure exactly who in the Omaha District has that information but I'm sure John Remus can point you to it.

Thanks,
Jody

-----Original Message-----
From: [REDACTED] Janelle M SAW
Sent: Monday, June 13, 2011 11:29 AM
To: Farhat, Jody S NWD02
Subject: A few questions (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

I am going to give the presentation for the MO System in the morning to the CMT here. TA general understanding of the system is valuable b/c Nebraska will see what the system has to pass. I have a couple of quick questions.

1. 150 cfs release out of Gavins and others - will this ever be higher ? Can the dams safely release more than the 150 cfs or 65cfs from Peck?
2. The inundation maps along the MO - what elevations are used for the top of levee? I know we have the constructed top of levee from when the structures are built but what I do not know is have the top of levees been resurveyed recently to document any settlement or changes?

Thanks

I will try to call you later today also.

Thanks



Classification: UNCLASSIFIED
Caveats: NONE

Classification: UNCLASSIFIED
Caveats: NONE

Classification: UNCLASSIFIED
Caveats: NONE

[REDACTED] NWO

From: [REDACTED]
Sent: Monday, June 13, 2011 12:39 PM
To: Farhat, Jody S NWD02
Subject: RE: A few questions (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

That is right. I forgot that makes up the difference. Thanks

[REDACTED]

-----Original Message-----
From: Farhat, Jody S NWD02
Sent: Monday, June 13, 2011 1:38 PM
To: [REDACTED] SAW
Subject: RE: A few questions (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

The Yellowstone river comes in downstream of Fort Peck and is the other major contributor in terms of runoff into the system. Flow on the Yellowstone today are 75,000 cfs and have been as high as 157,000 cfs during May.

-----Original Message-----
From: [REDACTED]
Sent: Monday, June 13, 2011 12:29 PM
To: Farhat, Jody S NWD02
Subject: RE: A few questions (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Another question asked was why Peck is releasing only 65k and the others pushing 150k? What is the maximum release for Peck?

I do not plan to share with the folks the maximum releases but just for my information. I will reiterate that 150k is the planned release and can safely pass the water through the system.

Thanks

[REDACTED]

-----Original Message-----
From: Farhat, Jody S NWD02
Sent: Monday, June 13, 2011 1:25 PM
To: [REDACTED]
Cc: [REDACTED]
Subject: RE: A few questions (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

[REDACTED]

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Thanks,
Jody

-----Original Message-----

From: [REDACTED]
Sent: Monday, June 13, 2011 11:29 AM
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Subject: A few questions (UNCLASSIFIED)

Classification: UNCLASSIFIED
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I will try to call you later today also.

Thanks
[REDACTED]

[REDACTED] NWO

From: [REDACTED] Janelle M SAW
Sent: Monday, June 13, 2011 12:29 PM
To: Farhat, Jody S NWD02
Subject: RE: A few questions (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

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I do not plan to share with the folks the maximum releases but just for my information. I will reiterate that 150k is the planned release and can safely pass the water through the system.

Thanks

[REDACTED]

-----Original Message-----

From: Farhat, Jody S NWD02
Sent: Monday, June 13, 2011 1:25 PM
To: [REDACTED] Janelle M SAW
Cc: [REDACTED] John I NWD
Subject: RE: A few questions (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

[REDACTED]

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Jody

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Sent: Monday, June 13, 2011 11:29 AM
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Subject: A few questions (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

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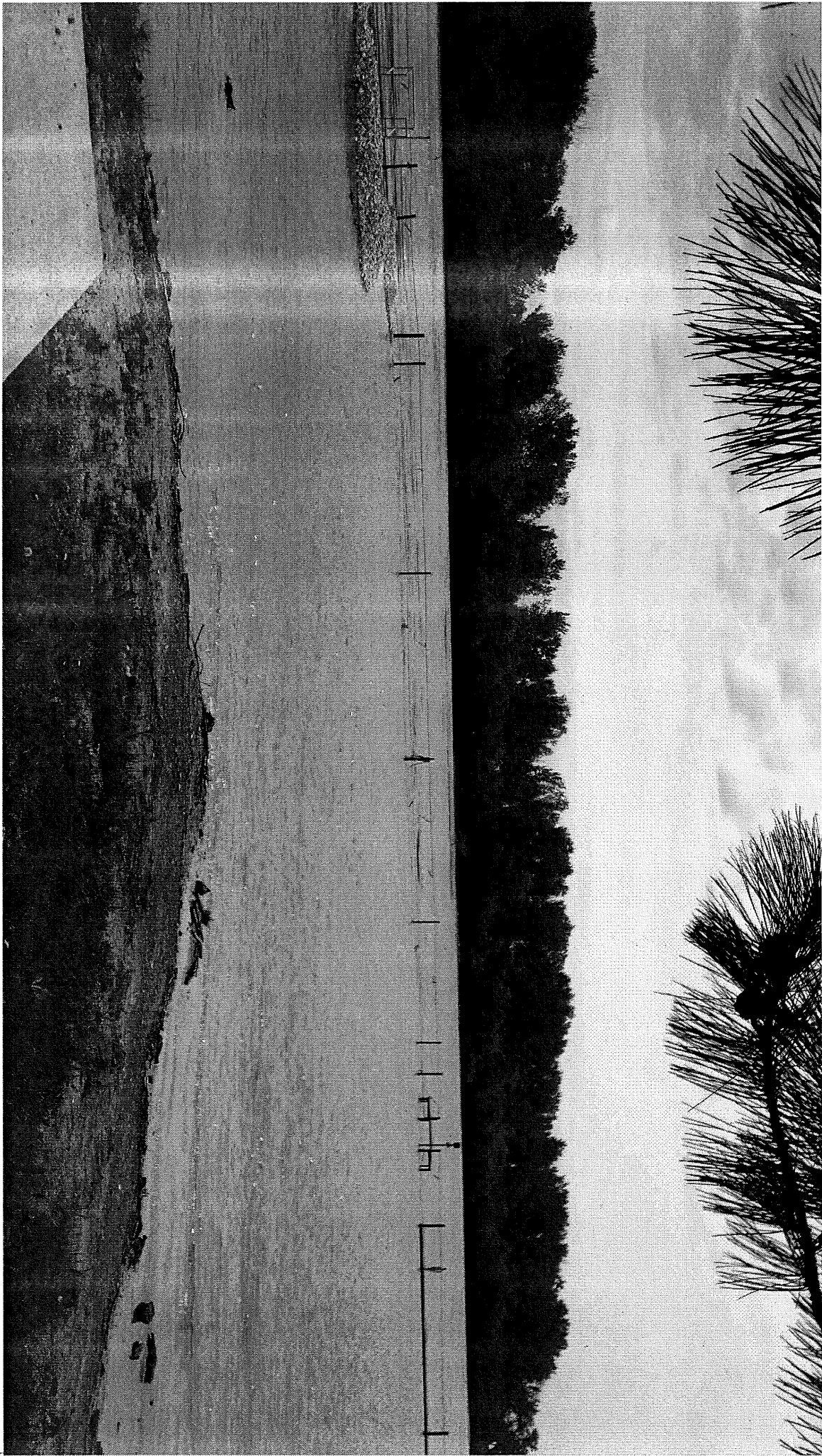
Thanks



Classification: UNCLASSIFIED
Caveats: NONE

Classification: UNCLASSIFIED
Caveats: NONE

Classification: UNCLASSIFIED
Caveats: NONE





From: [REDACTED]@NWO
Sent: Monday, June 13, 2011 11:19 AM
To: DLL-CENWO-EOC CMT-ALL
Cc: CENWD-EOC NWD; MRJIC
Subject: RE: ****URGENT****CCIR - Full Levee Breach - L-575 (UNCLASSIFIED)
Attachments: IMG00030-20110613-1110.jpg; IMG00031-20110613-1112.jpg

Classification: UNCLASSIFIED
Caveats: FOUO

All,

Please see first photos in from L-575 full breach.

Thanks,
Kim

Kimberly S. Thomas
Chief, Readiness Branch
U.S. Army Corps of Engineers - Omaha District
[REDACTED]
Omaha, NE 68102

-----Original Message-----

From: CENWO-EOC NWO
Sent: Monday, June 13, 2011 10:46 AM
To: [REDACTED] Phyllis F NWO; Buckley, Ryan M NWO;
[REDACTED] Williamson, Eileen L NWO
Subject: FW: ****URGENT****CCIR - Full Levee Breach - L-575 (UNCLASSIFIED)

From: [REDACTED] NWO
Sent: Monday, June 13, 2011 10:45:42 AM
To: DLL-CENWO-EOC CMT-ALL
Cc: CENWD-EOC NWD; MRJIC; DLL-HQ-UOCInternal
Subject: ****URGENT****CCIR - Full Levee Breach - L-575 (UNCLASSIFIED) Auto forwarded by a Rule

Classification: UNCLASSIFIED
Caveats: FOUO

All,

WHO: US Army Corps of Engineers, Omaha District
WHAT: Federal Levee Breach - Missouri River PL 84-99 Federal Levee - L-575, Operated and Maintained by a local levee sponsor, built by USACE.
WHEN: 13 June 2011 at 1000
WHERE: Near Hamburg, IA, River Mile 552, Atchison County, MO

The temporary Hamburg levee will be complete by 17 June, closure structure placement has been initiated.

Chief, Readiness Branch
U.S. Army Corps of Engineers - Omaha District
[REDACTED]
Omaha, NE 68102

From: CENWO-EOC NWO
Sent: Monday, June 13, 2011 10:07 AM
To: [REDACTED] NWO; [REDACTED], Phyllis L NWO; Buckley, Ryan M NWO; Brennan, Timothy J NWO; [REDACTED] NWO; Williamson, Eileen L NWO
Subject: FW: L-575 Partial Breach (UNCLASSIFIED)

From: [REDACTED] NWO
Sent: Monday, June 13, 2011 10:06:56 AM
To: DLL-CENWO-EOC CMT-ALL
Cc: CENWD-EOC NWD; MRJIC
Subject: L-575 Partial Breach (UNCLASSIFIED) Auto forwarded by a Rule

Classification: UNCLASSIFIED
Caveats: FOUO/WHO:

All,

A 4th partial breach has occurred on MR L-575 near Hamburg, IA at approximately 1000 this morning. First report indicates the partial breach is just South of the previous three and has pinched itself off similar to the others. The sponsor has a dozer and is working to repair it and re-establish the cross section.

More information will be sent when available.

Thanks,

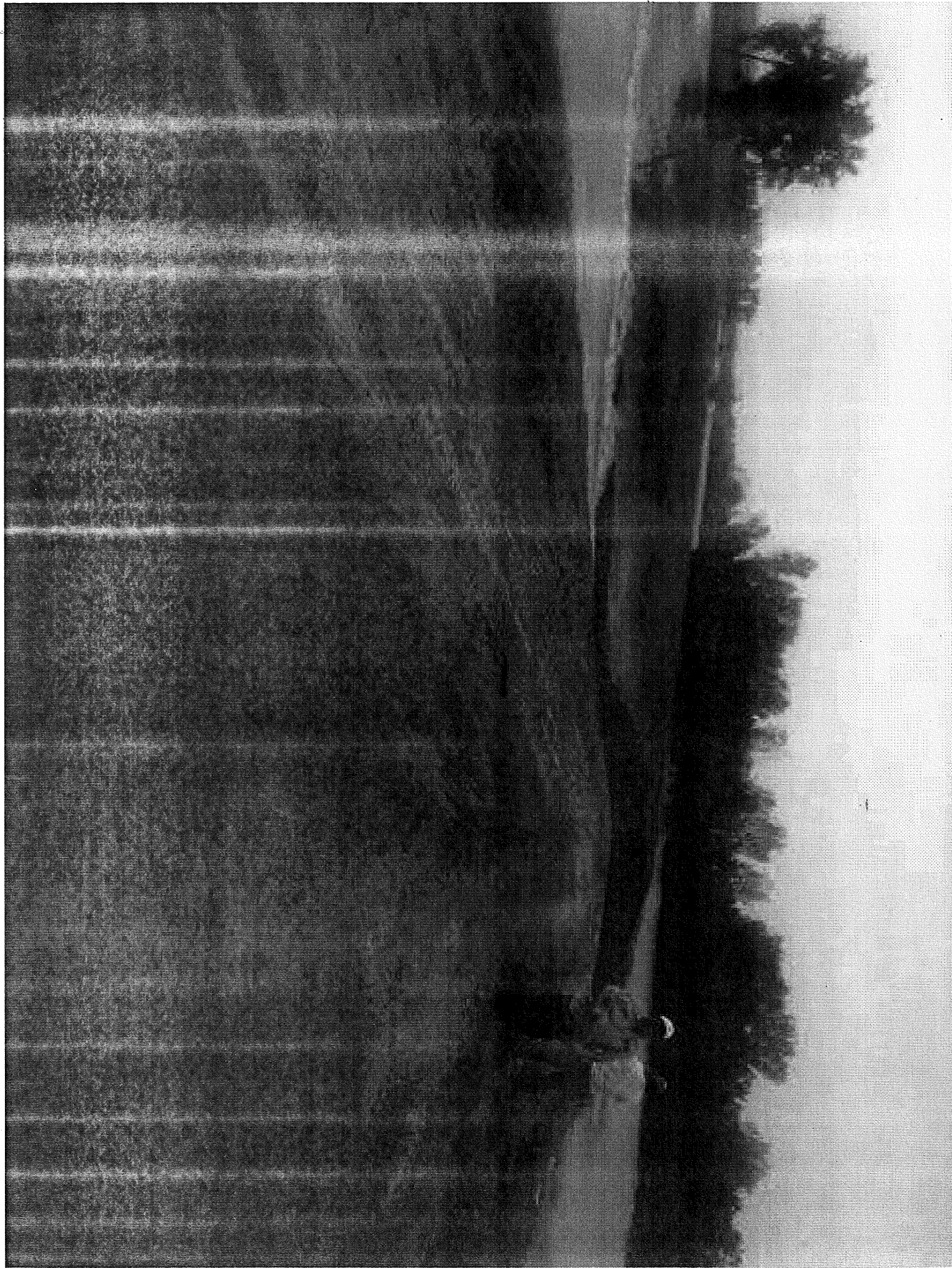
Chief, Readiness Branch
U.S. Army Corps of Engineers - Omaha District
[REDACTED] Ste 9000
Omaha, NE 68102

Classification: UNCLASSIFIED
Caveats: FOUO

Classification: UNCLASSIFIED
Caveats: FOUO

Classification: UNCLASSIFIED
Caveats: FOUO





NWO

From: [REDACTED]
Sent: Monday, June 13, 2011 10:39 AM
To: [REDACTED]; [REDACTED] NWD; Beard, Michael L NWD; Dobie, Paul W HQ02
Cc: Farhat, Jody S NWD02; [REDACTED]; [REDACTED] Lincoln, Joyce; Honihan, Christopher J NW0
Subject: [REDACTED]; CENWD-EOC NWD; CENWO-EOC NWO
Attachments: 1st draft of info to FEMA for RA visit (UNCLASSIFIED)
Gage Readings Missouri River 2011-06-13.pdf

Classification: UNCLASSIFIED
Caveats: NONE

Thanks,

ESF#3 TL, DR-1984-SD, Pierre JFO

Classification: UNCLASSIFIED
Caveats: NONE

Location	Floodstage	Current Stage	Trend	1st Day Exceeded Floodstage	"Normal Flows" Gage Height, Oct 2009 - Sep 2010
Pierre	13	18.89	Steady	24-May-11	6.73 - 10.11
Greenwood	30	37.75	Steady	6-May	21.87 - 29.58
Yankton	20	24.73	Rising	2-Jun	11.29 - 15.94
Gayville	55	55.94	Rising	7-Jun	44.88 - 48.64
Reservoir Releases					
Reservoir	Yesterday kcfs	Forecast Today kcfs	Next Change kcfs	Additional/final Change kcfs	Pre-2011 Record kcfs
Fort Peck	60.6	65	60 - 20 June		35
Garrison	135.2	135	145 - 16 June	150 - 17 June	65
Oahe	150.4	150			59
Big Bend	146.9	150			74
Fort Randall	137.5	140	147 - 14 June	148 - 15 June	67
Gavins Point	146.1	145	150 - 14 June		70

Burke, Linda F NWO

From: [REDACTED]
Sent: Monday, June 13, 2011 10:32 AM
To: DLL-CENWO-ALL Employees; DLL-CENWD Zorinsky-Floor 3
Subject: FW: Riverwatch June 13, 2011 #2011MoRivFlood (UNCLASSIFIED)
Attachments: 613NR-RIVERWATCH6-11[1].pdf

Classification: UNCLASSIFIED
Caveats: NONE

Missouri River Mainstem Reservoir Bulletin (Updated 13 Jun; 0900 CDT) Fort Peck(In operation since 1940) Midnight Elevation

- * 2251.9 ft msl
- * 24-hr Change (+0.2ft)

Daily Avg. Inflow

- * 89,000 cfs (12 Jun)
- * 91,000 cfs (11 Jun)

Daily Avg. Release

- * 63,700 cfs (12 Jun)
- * 60,600 cfs (11 Jun)

Annual Flood Ctrl & Multi-Use Zone (Elevation)

- * 2234 ft msl - 2246 ft msl

Exclusive Flood Ctrl Zone (Elevation)

- * 2246 ft msl - 2250 ft msl

Top of Spillway Gates

- * 2250 ft msl

Planned Scheduled Releases (Subject to Change)

- * Releases will be stepped up to 65,000 cfs.
- * Reservoir will use several feet of surcharge storage above the exclusive flood control pool as spillway gates are raised.

Record Pool Elevation (Year)

- * 2251.6 msl (1975)

Record Flow (Year)

- * 35,000 cfs (1975)

Projected Record Flow (Date)

- * 65,000 cfs (Mid June)

Garrison(In operation since 1955)

Midnight Elevation

- * 1853.3 ft msl
- * 24-hr Change (+0.3 ft)

Daily Avg. Inflow

- * 142,000 cfs (12 Jun)
- * 129,000 cfs (11 Jun)

Daily Avg. Release

- * 135,300 cfs (12 Jun)
- * 135,200 cfs (11 Jun)

Annual Flood Ctrl & Multi-Use Zone (Elevation)

- * 1837.5 ft msl - 1850 ft msl

Exclusive Flood Ctrl Zone (Elevation)

- * 1850 ft msl - 1854 ft msl

Top of Spillway Gates

- * 1854 ft msl

River Stage (Bismarck)

- * 17.84 (0746 CDT 13 Jun)
- * Flood stage - 16 ft
- * 17.64 (0715 CDT 12 Jun)

Planned Scheduled Releases (Subject to Change)

- * Releases will be stepped up to 150,000 cfs by mid June.
- * Spillway gates are being used to pass floodwaters.

Record Pool Elevation (Year)

- * 1854.8 msl (1975)

Record Flow (Year)

- * 65,000 cfs (1975)

Projected Record Flow (Date)

- * 150,000 cfs (Mid June)

Oahe(In operation since 1962)

Midnight Elevation

- * 1618.3 ft msl
- * 24-hr Change (-0.3 ft)

Daily Avg. Inflow

- * 122,000 cfs (12 Jun)
- * 131,000 cfs (11 Jun)

Daily Avg. Release

- * 150,400 cfs (12 Jun)
- * 150,400 cfs (11 Jun)

Annual Flood Ctrl & Multi-Use Zone (Elevation)

- * 1607.5 ft msl - 1620 ft msl

Exclusive Flood Ctrl Zone (Elevation)

- * 1617 ft msl - 1620 ft msl

Top of Spillway Gates

- * 1620 ft msl

River Stage (Pierre)

- * 18.88 (0730 CDT 13 Jun)
- * Flood stage - 15 ft
- * 18.87 (0715 CDT 12 Jun)

Planned Scheduled Releases (Subject to Change)

- * Releases have been stepped up to 150,000 cfs.
- * Reservoir will peak within a foot of the top of the spillway gates at 1619 feet.

Record Pool Elevation (Year)

- * 1618.7 msl (1995)

Record Flow (Year)

- * 59,000 cfs (1997)

Projected Record Flow (Date)

- * 150,000 cfs (Mid June)

Big Bend(In operation since 1964)

Midnight Elevation

- * 1420.0 ft msl
- * 24-hr Change (+0.4 ft)

Daily Avg. Inflow

- * 150,000 cfs (12 Jun)
- * 146,000 cfs (11 Jun)

Daily Avg. Release

- * 149,400 cfs (12 Jun)
- * 146,900 cfs (11 Jun)

Annual Flood Ctrl & Multi-Use Zone (Elevation)

- * 1420 ft msl - 1423 ft msl

Exclusive Flood Ctrl Zone (Elevation)

- * 1422 ft msl - 1423 ft msl

Top of Spillway Gates

- * 1423 ft msl

Planned Scheduled Releases (Subject to Change)

- * Releases will be stepped up to 150,000 cfs by mid June.
- * Reservoir will remain essentially level at 1420 feet.

Record Pool Elevation (Year)

- * 1422.1 msl (1991)

Record Flow (Date)

- * 74,000 cfs (1997)

Projected Record Flow (Date)

- * 150,000 cfs (Mid June)

Fort Randall(In operation since 1953)

Midnight Elevation

- * 1362.5ft msl

* 24-hr Change (+0.3 ft)

Daily Avg. Inflow

* 155,000 cfs (12 Jun)

* 149,000 cfs (11 Jun)

Daily Avg. Release

* 137,400 cfs (12 Jun)

* 137,500 cfs (11 Jun)

Annual Flood Ctrl & Multi-Use Zone (Elevation)

* 1350 ft msl - 1375 ft msl

Exclusive Flood Ctrl Zone (Elevation)

* 1365 ft msl - 1375 ft msl

Top of Spillway Gates

* 1375 ft msl

Planned Scheduled Releases (Subject to Change)

* Releases will be stepped up to 150,000 cfs by mid June.

Record Pool Elevation (Year)

* 1372.2 msl (1997)

Record Flow (Date)

* 67,000 cfs (1997)

Projected Record Flow (Date)

* 150,000 cfs (Mid June)

Gavins Point(In operation since 1955)

Midnight Elevation

* 1207.4 ft msl

* 24-hr Change (-0.3 ft)

Daily Avg. Inflow

* 141,000 cfs (12 Jun)

* 145,000 cfs (11 Jun)

Daily Avg. Release

* 144,900 cfs (12 Jun)

* 146,100 cfs (11 Jun)

Annual Flood Ctrl & Multi-Use Zone (Elevation)

* 1204.5 ft msl - 1210 ft msl

Exclusive Flood Ctrl Zone (Elevation)

* 1208 ft msl - 1210 ft msl

Top of Spillway Gates

* 1210 ft msl

Planned Scheduled Releases (Subject to Change)

* Releases will be stepped up to 150,000 cfs by mid June.

Record Pool Elevation (Year)

* 1209.7 msl (2010)

Record Flow (Date)

* 70,000 cfs (1997)

Projected Record Flow (Date)

* 150,000 cfs (Mid June)

Source of information: <http://www.nwd-mr.usace.army.mil/rcc>

Missouri River Mainstem 24-Hour Forecast Conditions (Updated 13 Jun; 0900 CDT)

24-hr forecast (Glasgow, MT)

Today: Patchy fog before 9am. Otherwise, mostly sunny, with a high near 79. Calm wind becoming south southwest from 7 to 10 mph.

Tonight: A chance of showers and t-storms. Mostly cloudy, with a low around 55. Southwest wind from 6 to 9 mph becoming calm. Chance of precipitation is 30%.

Tuesday: A chance of showers, with t-storms also possible after noon. Partly sunny, with a high near 74. Breezy, with a west northwest wind 9 to 12 mph increasing to from 19 to 22 mph. Winds could gust as high as 29 mph. Chance of precipitation is 30%.

24-hr forecast (Williston, ND)

Today: Mostly sunny, with a high near 76. West wind from 11 to 15 mph, with gusts as high as 18 mph.

Tonight: A slight chance of showers and t-storms. Mostly cloudy, with a low around 57. West wind from 5 to 8 mph becoming calm. Chance of precipitation is 20%.

Tuesday: Showers and t-storms likely. Mostly cloudy, with a high near 68. South wind at 10 mph becoming west. Chance of precipitation is 70%. New rainfall amounts from .25 to .5 of an inch possible.

24-hr forecast (Riverdale, ND)

Today: A 20% chance of showers and t-storms before 1pm. Partly sunny, with a high near 78. West wind from 13 to 16 mph, with gusts as high as 20 mph.

Tonight: Mostly cloudy, with a low around 57. West wind at 9 mph becoming southeast.

Tuesday: Showers and t-storms likely. Mostly cloudy, with a high near 72. South wind from 5 to 10 mph. Chance of precipitation is 70%. New rainfall amounts from .5 to .75 of an inch possible.

24-hr forecast (Washburn, ND)

Today: A 20% chance of showers and t-storms. Partly sunny, with a high near 77. West wind from 11 to 14 mph.

Tonight: Mostly cloudy, with a low around 57. West wind at 9 mph becoming east.

Tuesday: Showers and t-storms likely. Mostly cloudy, with a high near 72. South wind from 5 to 10 mph. Chance of precipitation is 70%. New rainfall amounts from .5 to .75 of an inch possible.

24-hr forecast (Bismarck/Mandan, ND)

Today: A 20% chance of showers and t-storms. Partly sunny, with a high near 78. West wind from 9 to 11 mph.

Tonight: A 20% chance of showers and t-storms before 1am. Mostly cloudy, with a low around 57. West wind 5 to 8 mph becoming east.

Tuesday: Showers and t-storms likely, mainly after 1pm. Mostly cloudy, with a high near 72. Southeast wind from 6 to 11 mph. Chance of precipitation is 70%. New rainfall amounts from .5 to .75 of an inch possible.

24-hr forecast (Pierre, SD)

Today: A 30 percent chance of showers and t-storms after 1pm. Some storms could be severe. Partly sunny, with a high near 80. North northwest wind from 5 to 7 mph.

Tonight: A 30% chance of showers and t-storms, mainly after 1am. Mostly cloudy, with a low around 61. Southeast wind from 6 to 9 mph.

Tuesday: Showers and t-storms likely, mainly after 1pm. Mostly cloudy, with a high near 77. East southeast wind 5 to 11 mph becoming west. Chance of precipitation is 70%.

24-hr forecast (Ft. Pierre, SD)

Today: A 30% chance of showers and t-storms after 1pm. Some storms could be severe. Partly sunny, with a high near 81. North northwest wind around 7 mph.

Tonight: A 30% chance of showers and t-storms, mainly after 1am. Mostly cloudy, with a low around 61. Southeast wind from 6 to 9 mph.

Tuesday: Showers and t-storms likely, mainly after 1pm. Mostly cloudy, with a high near 78. East southeast wind 6 to 11 mph becoming west. Chance of precipitation is 70%.

24-hr forecast (Lower Brule, SD)

Today: A 20% chance of showers and t-storms after 1pm. Some storms could be severe. Mostly cloudy, with a high near 79. South southeast wind from 7 to 9 mph.

Tonight: A 20% chance of showers and t-storms. Mostly cloudy, with a low around 61. Southeast wind from 7 to 13 mph.

Tuesday: Showers and t-storms likely, mainly after 1pm. Mostly cloudy, with a high near 78. East southeast wind 6 to 11 mph becoming south southwest. Chance of precipitation is 60%.

24-hr forecast (Chamberlain, SD)

Today: A slight chance of showers and t-storms. Mostly cloudy, with a high near 79. South southeast wind from 7 to 11 mph. Chance of precipitation is 20%.

Tonight: A slight chance of showers and t-storms before 1am. Mostly cloudy, with a low around 61. Southeast wind from 8 to 14 mph. Chance of precipitation is 20%.

Tuesday: Showers and t-storms likely, mainly after 1pm. Mostly cloudy, with a high near 76. South southeast wind from 7 to 11 mph. Chance of precipitation is 60%. New rainfall amounts from .25 to .5 of an inch possible.

24-hr forecast (Yankton, SD)

Today: Showers and t-storms likely before 10am, then a chance of showers and t-storms after 1pm. Mostly cloudy, with a high near 76. Southeast wind from 10 to 15 mph. Chance of precipitation is 60%. New rainfall amounts from .10 to .25 of an inch, except higher amounts possible in t-storms.

Tonight: A slight chance of showers and t-storms. Mostly cloudy, with a low around 61. East southeast wind from 6 to 11 mph. Chance of precipitation is 20%.

Tuesday: A chance of showers and t-storms after 1pm. Mostly cloudy, with a high near 75. East wind from 6 to 8 mph. Chance of precipitation is 40%.

24-hr forecast (Sioux City, IA)

Today: Scattered showers and t-storms before 10am, then a chance of showers and t-storms after 1pm. Mostly cloudy, with a high near 76. Southeast wind around 14 mph. Chance of precipitation is 50%.

Tonight: A chance of showers and t-storms. Mostly cloudy, with a low around 62. East southeast wind from 7 to 10 mph. Chance of precipitation is 50%.

Tuesday: A slight chance of showers and t-storms. Mostly cloudy, with a high near 75. East southeast wind from 7 to 11 mph. Chance of precipitation is 20%.

Source of information: <http://www.weather.gov>

24-hr forecast (Omaha, NE)

Today: A 20% chance of showers and t-storms after 4pm. Partly sunny, with a high near 77. Southeast wind from 13 to 15 mph, with gusts as high as 22 mph.

Tonight: A 30% chance of showers and t-storms, mainly from 7pm to 1am. Mostly cloudy, with a low around 64. East wind from 8 to 13 mph. New rainfall amounts from .10 to .25 of an inch, except higher amounts possible in t-storms.

Tuesday: A 20% chance of showers and t-storms after 1pm. Partly sunny, with a high near 77. East wind from 7 to 9 mph.

Source of information: <http://www.weather.gov/>

Internet: <http://www.nwo.usace.army.mil>

Facebook: <http://www.facebook.com/OmahaUSACE>

Twitter: <http://www.twitter.com/OmahaUSACE>

YouTube: <http://www.youtube.com/OmahaUSACE>

Flickr: <http://www.flickr.com/photos/omahausace>

Classification: UNCLASSIFIED

Caveats: NONE



US Army Corps
of Engineers
Omaha District

Missouri River Mainstem Reservoir Bulletin (Updated 13 Jun; 0900 CDT)

Fort Peck (In operation since 1940)	Garrison (In operation since 1955)	Oahe (In operation since 1962)	Big Bend (In operation since 1964)	Fort Randall (In operation since 1953)	Gavins Point (In operation since 1955)
Midnight Elevation <ul style="list-style-type: none">2251.9 ft msl24-hr Change (+0.2ft) Daily Avg. Inflow <ul style="list-style-type: none">89,000 cfs (12 Jun)91,000 cfs (11 Jun) Daily Avg. Release <ul style="list-style-type: none">63,700 cfs (12 Jun)60,600 cfs (11 Jun) Annual Flood Ctrl & Multi-Use Zone (Elevation) <ul style="list-style-type: none">2234 ft msl – 2246 ft msl Exclusive Flood Ctrl Zone (Elevation) <ul style="list-style-type: none">2246 ft msl – 2250 ft msl Top of Spillway Gates <ul style="list-style-type: none">2250 ft msl Planned Scheduled Releases (Subject to Change) <ul style="list-style-type: none">Releases will be stepped up to 65,000 cfs.Reservoir will use several feet of surcharge storage above the exclusive flood control pool as spillway gates are raised. Record Pool Elevation (Year) <ul style="list-style-type: none">2251.6 msl (1975) Record Flow (Year) <ul style="list-style-type: none">35,000 cfs (1975) Projected Record Flow (Date) <ul style="list-style-type: none">65,000 cfs (Mid June)	Midnight Elevation <ul style="list-style-type: none">1853.3 ft msl24-hr Change (+0.3 ft) Daily Avg. Inflow <ul style="list-style-type: none">142,000 cfs (12 Jun)129,000 cfs (11 Jun) Daily Avg. Release <ul style="list-style-type: none">135,300 cfs (12 Jun)135,200 cfs (11 Jun) Annual Flood Ctrl & Multi-Use Zone (Elevation) <ul style="list-style-type: none">1837.5 ft msl – 1850 ft msl Exclusive Flood Ctrl Zone (Elevation) <ul style="list-style-type: none">1850 ft msl – 1854 ft msl Top of Spillway Gates <ul style="list-style-type: none">1854 ft msl River Stage (Bismarck) <ul style="list-style-type: none">17.84 (0746 CDT 13 Jun)Flood stage – 16 ft17.64 (0715 CDT 12 Jun) Planned Scheduled Releases (Subject to Change) <ul style="list-style-type: none">Releases will be stepped up to 150,000 cfs by mid June.Spillway gates are being used to pass floodwaters. Record Pool Elevation (Year) <ul style="list-style-type: none">1854.8 msl (1975) Record Flow (Year) <ul style="list-style-type: none">65,000 cfs (1975) Projected Record Flow (Date) <ul style="list-style-type: none">150,000 cfs (Mid June)	Midnight Elevation <ul style="list-style-type: none">1618.3 ft msl24-hr Change (+0.3 ft) Daily Avg. Inflow <ul style="list-style-type: none">122,000 cfs (12 Jun)131,000 cfs (11 Jun) Daily Avg. Release <ul style="list-style-type: none">150,400 cfs (12 Jun)150,400 cfs (11 Jun) Annual Flood Ctrl & Multi-Use Zone (Elevation) <ul style="list-style-type: none">1607.5 ft msl – 1620 ft msl Exclusive Flood Ctrl Zone (Elevation) <ul style="list-style-type: none">1617 ft msl – 1620 ft msl Top of Spillway Gates <ul style="list-style-type: none">1620 ft msl River Stage (Pierre) <ul style="list-style-type: none">18.88 (0730 CDT 13 Jun)Flood stage – 15 ft18.87 (0715 CDT 12 Jun) Planned Scheduled Releases (Subject to Change) <ul style="list-style-type: none">Releases have been stepped up to 150,000 cfs.Reservoir will peak within a foot of the top of the spillway gates at 1619 feet. Record Pool Elevation (Year) <ul style="list-style-type: none">1618.7 msl (1995) Record Flow (Year) <ul style="list-style-type: none">59,000 cfs (1997) Projected Record Flow (Date) <ul style="list-style-type: none">150,000 cfs (Mid June)	Midnight Elevation <ul style="list-style-type: none">1420.0 ft msl24-hr Change (+0.4 ft) Daily Avg. Inflow <ul style="list-style-type: none">150,000 cfs (12 Jun)146,000 cfs (11 Jun) Daily Avg. Release <ul style="list-style-type: none">149,400 cfs (12 Jun)146,900 cfs (11 Jun) Annual Flood Ctrl & Multi-Use Zone (Elevation) <ul style="list-style-type: none">1420 ft msl – 1423 ft msl Exclusive Flood Ctrl Zone (Elevation) <ul style="list-style-type: none">1422 ft msl – 1423 ft msl Top of Spillway Gates <ul style="list-style-type: none">1423 ft msl Planned Scheduled Releases (Subject to Change) <ul style="list-style-type: none">Releases will be stepped up to 150,000 cfs by mid June.Reservoir will remain essentially level at 1420 feet. Record Pool Elevation (Year) <ul style="list-style-type: none">1422.1 msl (1991) Record Flow (Date) <ul style="list-style-type: none">74,000 cfs (1997) Projected Record Flow (Date) <ul style="list-style-type: none">150,000 cfs (Mid June)	Midnight Elevation <ul style="list-style-type: none">1362.5ft msl24-hr Change (+0.3 ft) Daily Avg. Inflow <ul style="list-style-type: none">155,000 cfs (12 Jun)149,000 cfs (11 Jun) Daily Avg. Release <ul style="list-style-type: none">137,400 cfs (12 Jun)137,500 cfs (11 Jun) Annual Flood Ctrl & Multi-Use Zone (Elevation) <ul style="list-style-type: none">1350 ft msl – 1375 ft msl Exclusive Flood Ctrl Zone (Elevation) <ul style="list-style-type: none">1365 ft msl – 1375 ft msl Top of Spillway Gates <ul style="list-style-type: none">1375 ft msl Planned Scheduled Releases (Subject to Change) <ul style="list-style-type: none">Releases will be stepped up to 150,000 cfs by mid June. Record Pool Elevation (Year) <ul style="list-style-type: none">1372.2 msl (1997) Record Flow (Date) <ul style="list-style-type: none">67,000 cfs (1997) Projected Record Flow (Date) <ul style="list-style-type: none">150,000 cfs (Mid June)	Midnight Elevation <ul style="list-style-type: none">1207.4 ft msl24-hr Change (-0.3 ft) Daily Avg. Inflow <ul style="list-style-type: none">141,000 cfs (12 Jun)145,000 cfs (11 Jun) Daily Avg. Release <ul style="list-style-type: none">144,900 cfs (12 Jun)146,100 cfs (11 Jun) Annual Flood Ctrl & Multi-Use Zone (Elevation) <ul style="list-style-type: none">1204.5 ft msl – 1210 ft msl Exclusive Flood Ctrl Zone (Elevation) <ul style="list-style-type: none">1208 ft msl – 1210 ft msl Top of Spillway Gates <ul style="list-style-type: none">1210 ft msl Planned Scheduled Releases (Subject to Change) <ul style="list-style-type: none">Releases will be stepped up to 150,000 cfs by mid June. Record Pool Elevation (Year) <ul style="list-style-type: none">1209.7 msl (2010) Record Flow (Date) <ul style="list-style-type: none">70,000 cfs (1997) Projected Record Flow (Date) <ul style="list-style-type: none">150,000 cfs (Mid June)

Source of information: <http://www.nwd-mr.usace.army.mil/rcc>



US Army Corps
of Engineers
Omaha District

Missouri River Mainstem 24-Hour Forecast Conditions (Updated 13 Jun; 0900 CDT)

Fort Peck	Garrison	Omaha	Big Bend	Fort Randall	Gavins Point
<p>24-hr forecast (Glasgow, MT) Today: Patchy fog before 9am. Otherwise, mostly sunny, with a high near 79. Calm wind becoming south southwest from 7 to 10 mph.</p> <p>Tonight: A chance of showers and t-storms. Mostly cloudy, with a low around 55. Southwest wind from 6 to 9 mph becoming calm. Chance of precipitation is 30%.</p> <p>Tuesday: A chance of showers, with t-storms also possible after noon. Partly sunny, with a high near 74. Breezy, with a west northwest wind 9 to 12 mph increasing to from 19 to 22 mph. Winds could gust as high as 29 mph. Chance of precipitation is 30%.</p> <p>24-hr forecast (Williston, ND) Today: Mostly sunny, with a high near 76. West wind from 11 to 15 mph, with gusts as high as 18 mph.</p> <p>Tonight: A slight chance of showers and t-storms. Mostly cloudy, with a low around 57. West wind from 5 to 8 mph becoming calm. Chance of precipitation is 20%.</p> <p>Tuesday: Showers and t-storms likely. Mostly cloudy, with a high near 68. South wind at 10 mph becoming west. Chance of precipitation is 70%. New rainfall amounts from .25 to .5 of an inch possible.</p>	<p>24-hr forecast (Riverdale, ND) Today: A 20% chance of showers and t-storms before 1pm. Partly sunny, with a high near 78. West wind from 13 to 16 mph, with gusts as high as 20 mph.</p> <p>Tonight: Mostly cloudy, with a low around 57. West wind at 9 mph becoming southeast.</p> <p>Tuesday: Showers and t-storms likely. Mostly cloudy, with a high near 72. South wind from 5 to 10 mph. Chance of precipitation is 70%. New rainfall amounts from .5 to .75 of an inch possible.</p> <p>24-hr forecast (Washburn, ND) Today: A 20% chance of showers and t-storms. Partly sunny, with a high near 77. West wind from 11 to 14 mph.</p> <p>Tonight: Mostly cloudy, with a low around 57. West wind at 9 mph becoming east.</p> <p>Tuesday: Showers and t-storms likely. Mostly cloudy, with a high near 72. South wind from 5 to 10 mph. Chance of precipitation is 70%. New rainfall amounts from .5 to .75 of an inch possible.</p>	<p>24-hr forecast (Pierre, SD) Today: A 30 percent chance of showers and t-storms after 1pm. Some storms could be severe. Partly sunny, with a high near 80. North northwest wind from 5 to 7 mph.</p> <p>Tonight: A 30% chance of showers and t-storms, mainly after 1am. Mostly cloudy, with a low around 61. Southeast wind from 6 to 9 mph.</p> <p>Tuesday: Showers and t-storms likely, mainly after 1pm. Mostly cloudy, with a high near 77. East southeast wind 5 to 11 mph becoming west. Chance of precipitation is 70%.</p> <p>24-hr forecast (Ft. Pierre, SD) Today: A 30% chance of showers and t-storms after 1pm. Some storms could be severe. Partly sunny, with a high near 81. North northwest wind around 7 mph.</p> <p>Tonight: A 30% chance of showers and t-storms, mainly after 1am. Mostly cloudy, with a low around 61. Southeast wind from 6 to 9 mph.</p> <p>Tuesday: Showers and t-storms likely, mainly after 1pm. Mostly cloudy, with a high near 78. East southeast wind 6 to 11 mph becoming south southwest. Chance of precipitation is 60%.</p>	<p>24-hr forecast (Lower Brule, SD) Today: A 20% chance of showers and t-storms after 1pm. Some storms could be severe. Mostly cloudy, with a high near 79. South southeast wind from 7 to 9 mph.</p> <p>Tonight: A 20% chance of showers and t-storms. Mostly cloudy, with a low around 61. Southeast wind from 7 to 13 mph.</p> <p>Tuesday: Showers and t-storms likely, mainly after 1pm. Mostly southeast wind 6 to 11 mph becoming south southwest. Chance of precipitation is 60%.</p>	<p>24-hr forecast (Chamberlain, SD) Today: A slight chance of showers and t-storms. Mostly cloudy, with a high near 79. South southeast wind from 7 to 11 mph. Chance of precipitation is 20%.</p> <p>Tonight: A slight chance of showers and t-storms before 1am. Mostly cloudy, with a low around 61. Southeast wind from 8 to 14 mph. Chance of precipitation is 20%.</p> <p>Tuesday: Showers and t-storms likely, mainly after 1pm. Mostly cloudy, with a high near 76. South southeast wind from 7 to 11 mph. Chance of precipitation is 60%. New rainfall amounts from .25 to .5 of an inch possible.</p>	<p>24-hr forecast (Yankton, SD) Today: Showers and t-storms likely before 10am, then a chance of showers and t-storms after 1pm. Mostly cloudy, with a high near 76. Southeast wind from 10 to 15 mph. Chance of precipitation is 60%. New rainfall amounts from .10 to .25 of an inch, except higher amounts possible in t-storms.</p> <p>Tonight: A slight chance of showers and t-storms. Mostly cloudy, with a low around 61. East southeast wind from 6 to 11 mph. Chance of precipitation is 20%.</p> <p>Tuesday: A chance of showers and t-storms after 1pm. Mostly cloudy, with a high near 75. East wind from 6 to 8 mph. Chance of precipitation is 40%.</p> <p>24-hr forecast (Sioux City, IA) Today: Scattered showers and t-storms before 10am, then a chance of showers and t-storms after 1pm. Mostly cloudy, with a high near 76. Southeast wind around 14 mph. Chance of precipitation is 50%.</p> <p>Tonight: A chance of showers and t-storms. Mostly cloudy, with a low around 62. East southeast wind from 7 to 10 mph. Chance of precipitation is 50%.</p> <p>Tuesday: A slight chance of showers and t-storms. Mostly cloudy, with a high near 75. East southeast wind from 7 to 11 mph. Chance of precipitation is 20%.</p>

Source of information: <http://www.weather.gov>



US Army Corps
of Engineers
Omaha District

Missouri River Mainstem 24-Hour Forecast Conditions (Updated 12 Jun; 0900 CDT)

Fort Peck	Garrison	Oahe	Big Bend	Fort Randall	Gavins Point
	<p>24-hr forecast (Bismarck/Mandan, ND) Today: A 20% chance of showers and t-storms. Partly sunny, with a high near 78. West wind from 9 to 11 mph.</p> <p>Tonight: A 20% chance of showers and t-storms before 1am. Mostly cloudy, with a low around 57. West wind 5 to 8 mph becoming east.</p> <p>Tuesday: Showers and t-storms likely, mainly after 1pm. Mostly cloudy, with a high near 72. Southeast wind from 6 to 11 mph. Chance of precipitation is 70%. New rainfall amounts from .5 to .75 of an inch possible.</p>				<p>24-hr forecast (Omaha, NE) Today: A 20% chance of showers and t-storms after 4pm. Partly sunny, with a high near 77. Southeast wind from 13 to 15 mph, with gusts as high as 22 mph.</p> <p>Tonight: A 30% chance of showers and t-storms, mainly from 7pm to 1am. Mostly cloudy, with a low around 64. East wind from 8 to 13 mph. New rainfall amounts from .10 to .25 of an inch, except higher amounts possible in t-storms.</p> <p>Tuesday: A 20% chance of showers and t-storms after 1pm. Partly sunny, with a high near 77. East wind from 7 to 9 mph.</p>

Source of information: <http://www.weather.gov/>

Internet: <http://www.nwo.usace.army.mil>

Facebook: <http://www.facebook.com/OmahaUSACE>

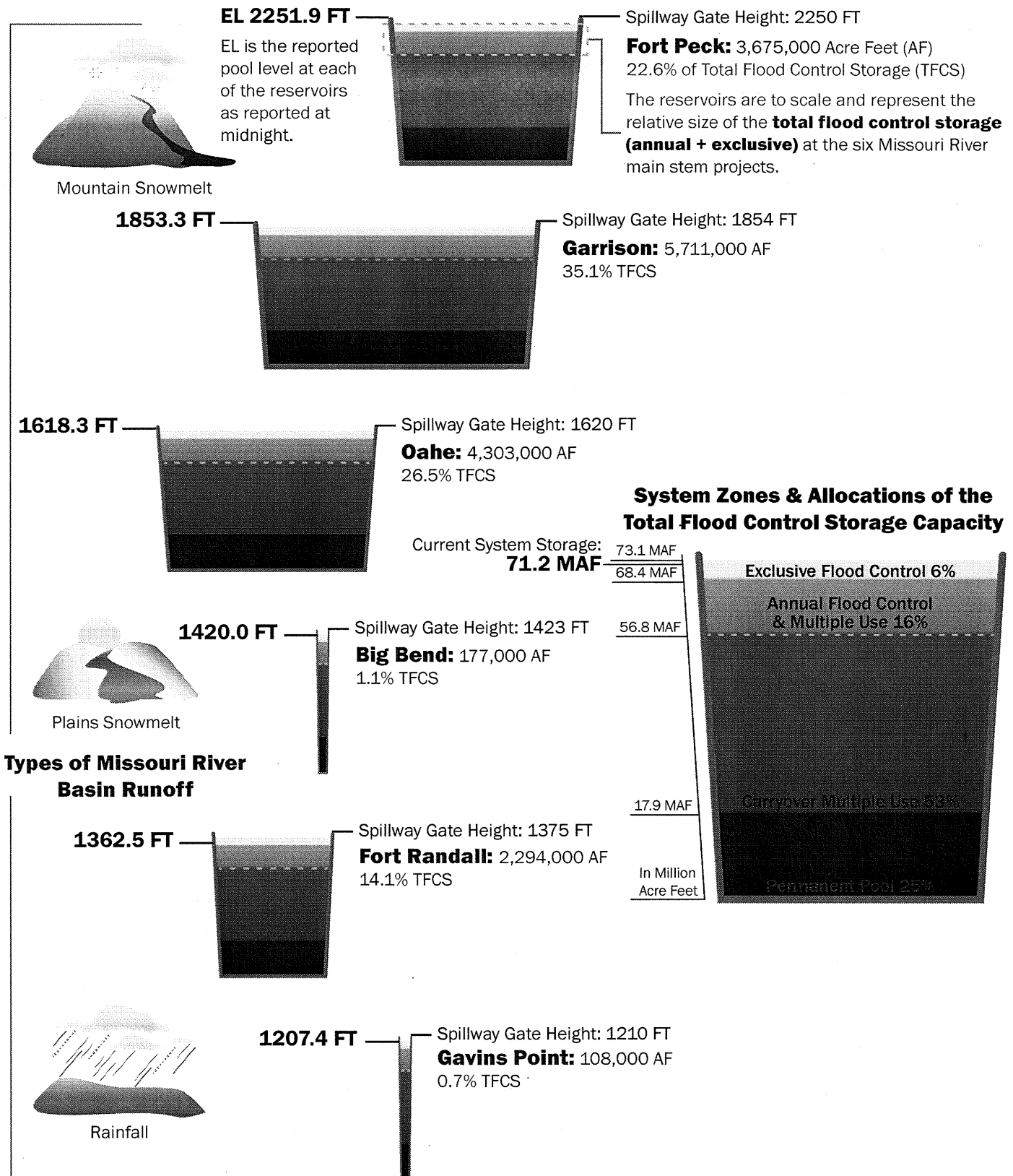
Twitter: <http://www.twitter.com/OmahaUSACE>

YouTube: <http://www.youtube.com/OmahaUSACE>

Flickr: <http://www.flickr.com/photos/omahausace>

Missouri River Main Stem Reservoir System

Midnight Elevation (EL) Forecast: June 13, 2011 (feet above mean sea level)



[REDACTED] NWO

From: [REDACTED]
Sent: Monday, June 13, 2011 10:30 AM
To: [REDACTED]
Cc: Anderson, G Witt NWD; Blechinger, Erik T NWO; McMahon, John R BG NWD; Ruch, Robert J COL NWO; [REDACTED]; Farhat, Jody S NWD02; Austin-Smith, Christina A NWD; [REDACTED]
Subject: FW: Maps requested - MG Grisoli brief (UNCLASSIFIED)
Attachments: MR_Levee_Freeboard_061211.pdf; Mo_River_levee_road_map_with_RM.pdf

Classification: UNCLASSIFIED
Caveats: NONE

[REDACTED]
Per this morning's pre-brief for Rep Noem (SD), attached is the levee layout from Omaha - Rulo, NE, along with current levee freeboard. [REDACTED] working up the Rulo - St. Louis levee laydown, which will be forthcoming shortly.

Note there are no fed levees north of Omaha, hence no layout from Omaha north to Gavins Point.

Please call with questions.

V/R

[REDACTED]
Ted H. Streckfuss, Env. P.E., PMP
Deputy District Engineer
Omaha District Corps of Engineers
[REDACTED]
[REDACTED]

Classification: UNCLASSIFIED
Caveats: NONE

AS OF: 12-Jun-11 0800

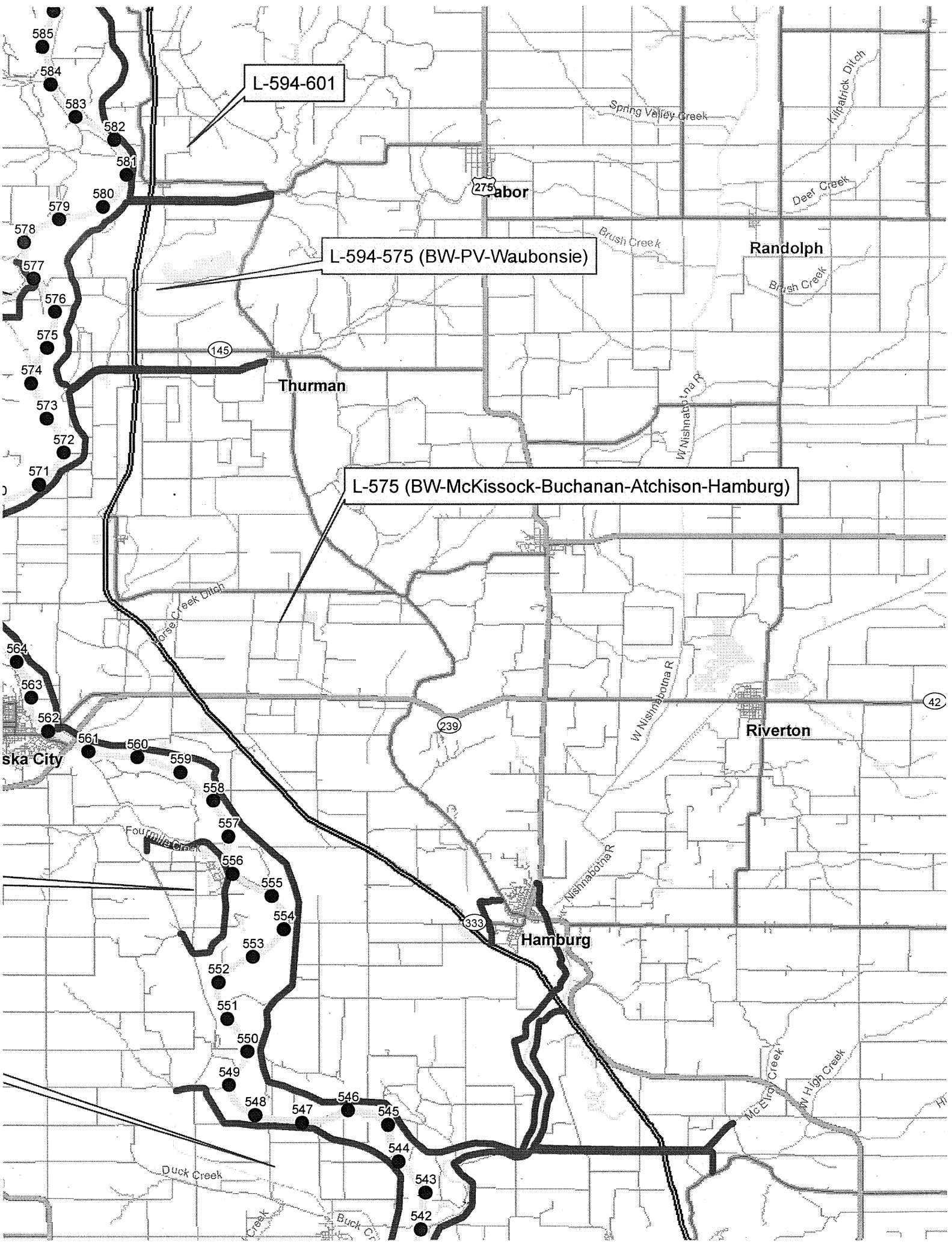
Gage

Stage

Freeboard

Omaha	31.62	> 5'
Nebraska City	24.19	2' - 5'
Brownville	40.43	< 2'
Rulo	24.34	

Missouri River Federal Levee	Stream Gage Location	Likely Range of Stage with normal precipitation (ft)	Overtop Stage Previous Estimate	Overtop Stage FreeBoard Survey	Current FreeBoard (feet)
Omaha Levee D/S 275	Omaha	34 36	40	38	6.4
Omaha Flood Wall	Omaha	34 36	41	41	9.4
Council Bluffs Ind Levee	Omaha	34 36	na	36.8	5.2
Council Bluffs Fed Levee	Omaha	34 36	40	40.2	8.6
L627	Omaha	34 36	36	38	6.4
L624	Omaha	34 36	35	38	6.4
L611-614	Omaha	34 36	35	38	6.4
R616	Omaha	34 36	35	36.6	5.0
R613	Omaha	34 36	35	36.8	5.2
L601	Nebraska City	27 28+	25.4	29	4.8
L594	Nebraska City	27 28+	26	30	5.8
L575	Nebraska City	27	27	27	2.8
R573	Nebraska City	27	27	28.2	4.0
R562	Nebraska City	27 28+	25.5	28.7	4.5
R548	Brownville	43	44	43.9	3.5
L550	Brownville	43	42.8	43.7	3.3
L536	Brownville	43	44.3	43.9	3.5
R520	Rulo	25.5 27+	27	30	5.7



L-594-601

L-594-575 (BW-PV-Waubonsie)

L-575 (BW-McKissock-Buchanan-Atchison-Hamburg)

[REDACTED] NWO

From: [REDACTED] Sengeland, Gary A SWD@SWG
Sent: Monday, June 13, 2011 10:05 AM
To: Farhat, Jody S NWD02; [REDACTED] Templeton, LeeJay J NWO
Cc: [REDACTED] Stasch, Eric D NWO
Subject: RE: Normal flow rates? (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Thanks much, Know your busy, I've been working the USGS site hard, but they don't show release data, so this is great.

Thanks,

[REDACTED] Sengeland
ESF#3 TL, DR-1984-SD, Pierre JFO
[REDACTED] 509-519-0236

-----Original Message-----

From: Farhat, Jody S NWD02
Sent: Monday, June 13, 2011 10:04 AM
To: [REDACTED] Sengeland, Gary A SWD@SWG; Templeton, LeeJay J NWO
Cc: [REDACTED] Stasch, Eric D NWO
Subject: RE: Normal flow rates? (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

The link below will take you to the historical statics for the mainstem dams. There is information there on maximum, minimum and average releases since the mainstem reservoir system has been in place.

From those statistics, I can tell you that the average annual release from Oahe dam is 23,500 cfs, but it varies based on time of year.

<http://www.nwd-mr.usace.army.mil/rcc/projdata/projdata.html>

Jody

-----Original Message-----

From: [REDACTED] Sengeland, Gary A SWD@SWG
Sent: Monday, June 13, 2011 9:06 AM
To: [REDACTED] Templeton, LeeJay J NWO
Cc: Farhat, Jody S NWD02; [REDACTED] Stasch, Eric D NWO
Subject: FW: Normal flow rates? (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

[REDACTED]
Do you have anything in the Master Plan that addresses "Normal Flow Rates" out of Oahe, even if they change or are some upper and lower norms?

Thanks,

[REDACTED]

ESF#3 TL, DR-1984-SD, Pierre JFO

-----Original Message-----

From: Thaxton, Steven [<mailto:Steven.Thaxton@dhs.gov>]

Sent: Monday, June 13, 2011 7:38 AM

To: [REDACTED]

Subject: Normal flow rates!

Any luck on finding the "normal" CFS for our system.

Steven Thaxton

FEMA Region VIII Mission Assignments

Phone: (303) 235-4804 BB: (303) 815-8878

Email: steven.thaxton@dhs.gov <<mailto:steven.thaxton@dhs.gov>>

Classification: UNCLASSIFIED

Caveats: NONE

Classification: UNCLASSIFIED

Caveats: NONE

Classification: UNCLASSIFIED

Caveats: NONE

[REDACTED] NWO

From: [REDACTED]
Sent: Monday, June 13, 2011 9:32 AM
To: Farhat, Jody S NWD02
Subject: No FUI on External Website when GAPT = 150 kcfs (UNCLASSIFIED)
Attachments: Jun 2011 - Gavins Release of 150 kcfs - No FUI on external.docx

Classification: UNCLASSIFIED

Caveats: NONE

For your review. Based on Friday's conversation between you, me and [REDACTED], see attached. We'd post it on the external website only starting Wednesday. The internal website would remain as is.

[REDACTED]
Reservoir Regulation Team Lead
Missouri River Basin Water Management,
Northwestern Division, USACE

[REDACTED]
482.996.3878

[REDACTED]
482.996.3898 (fax)

Classification: UNCLASSIFIED

Caveats: NONE

Releases from Gavins Point Dam are 150,000 cfs. Releases are expected to remain at this level well into August. During this time, please refer to the following links for Missouri River information:

For forecasted flows and stages, please refer to the National Weather Service:
<http://www.crh.noaa.gov/mbrfc/>

For a range of expected flows and stages with a release of 150,000 cfs from Gavins Point Dam, please refer to the USACE Omaha District website:
<http://www.nwo.usace.army.mil/html/op-e/flood2011/citizenresources.html>

If you have questions, please contact us at:
Missouri.Water.Management@usace.army.mil

* 35,000 cfs (1975)

Projected Record Flow (Date)

* 65,000 cfs (Mid June)

Garrison(In operation since 1955)

Midnight Elevation

* 1853.3 ft msl

* 24-hr Change (+0.3 ft)

Daily Avg. Inflow

* 142,000 cfs (12 Jun)

* 129,000 cfs (11 Jun)

Daily Avg. Release

* 135,300 cfs (12 Jun)

* 135,200 cfs (11 Jun)

Annual Flood Ctrl & Multi-Use Zone (Elevation)

* 1837.5 ft msl - 1850 ft msl

Exclusive Flood Ctrl Zone (Elevation)

* 1850 ft msl - 1854 ft msl

Top of Spillway Gates

* 1854 ft msl

River Stage (Bismarck)

* 17.84 (0746 CDT 13 Jun)

* Flood stage - 16 ft

* 17.64 (0715 CDT 12 Jun)

Planned Scheduled Releases (Subject to Change)

* Releases will be stepped up to 150,000 cfs by mid June.

* Spillway gates are being used to pass floodwaters.

Record Pool Elevation (Year)

* 1854.8 msl (1975)

Record Flow (Year)

* 65,000 cfs (1975)

Projected Record Flow (Date)

* 150,000 cfs (Mid June)

Oahe(In operation since 1962)

Midnight Elevation

* 1618.3 ft msl

* 24-hr Change (-0.3 ft)

Daily Avg. Inflow

* 122,000 cfs (12 Jun)

* 131,000 cfs (11 Jun)

Daily Avg. Release

- * 150,400 cfs (12 Jun)
- * 150,400 cfs (11 Jun)

Annual Flood Ctrl & Multi-Use Zone (Elevation)

- * 1607.5 ft msl - 1620 ft msl

Exclusive Flood Ctrl Zone (Elevation)

- * 1617 ft msl - 1620 ft msl

Top of Spillway Gates

- * 1620 ft msl

River Stage (Pierre)

- * 18.88 (0730 CDT 13 Jun)
- * Flood stage - 15 ft
- * 18.87 (0715 CDT 12 Jun)

Planned Scheduled Releases (Subject to Change)

- * Releases have been stepped up to 150,000 cfs.
- * Reservoir will peak within a foot of the top of the spillway gates at 1619 feet.

Record Pool Elevation (Year)

- * 1618.7 msl (1995)

Record Flow (Year)

- * 59,000 cfs (1997)

Projected Record Flow (Date)

- * 150,000 cfs (Mid June)

Big Bend(In operation since 1964)

Midnight Elevation

- * 1420.0 ft msl
- * 24-hr Change (+0.4 ft)

Daily Avg. Inflow

- * 150,000 cfs (12 Jun)
- * 146,000 cfs (11 Jun)

Daily Avg. Release

- * 149,400 cfs (12 Jun)
- * 146,900 cfs (11 Jun)

Annual Flood Ctrl & Multi-Use Zone (Elevation)

- * 1420 ft msl - 1423 ft msl

Exclusive Flood Ctrl Zone (Elevation)

- * 1422 ft msl - 1423 ft msl

Top of Spillway Gates

- * 1423 ft msl

Planned Scheduled Releases (Subject to Change)

- * Releases will be stepped up to 150,000 cfs by mid June.
- * Reservoir will remain essentially level at 1420 feet.

Record Pool Elevation (Year)

* 1422.1 msl (1991)

Record Flow (Date)

* 74,000 cfs (1997)

Projected Record Flow (Date)

* 150,000 cfs (Mid June)

Fort Randall(In operation since 1953)

Midnight Elevation

* 1362.5ft msl

* 24-hr Change (+0.3 ft)

Daily Avg. Inflow

* 155,000 cfs (12 Jun)

* 149,000 cfs (11 Jun)

Daily Avg. Release

* 137,400 cfs (12 Jun)

* 137,500 cfs (11 Jun)

Annual Flood Ctrl & Multi-Use Zone (Elevation)

* 1350 ft msl - 1375 ft msl

Exclusive Flood Ctrl Zone (Elevation)

* 1365 ft msl - 1375 ft msl

Top of Spillway Gates

* 1375 ft msl

Planned Scheduled Releases (Subject to Change)

* Releases will be stepped up to 150,000 cfs by mid June.

Record Pool Elevation (Year)

* 1372.2 msl (1997)

Record Flow (Date)

* 67,000 cfs (1997)

Projected Record Flow (Date)

* 150,000 cfs (Mid June)

Gavins Point(In operation since 1955)

Midnight Elevation

* 1207.4 ft msl

* 24-hr Change (-0.3 ft)

Daily Avg. Inflow

* 141,000 cfs (12 Jun)

* 145,000 cfs (11 Jun)

Daily Avg. Release

* 144,900 cfs (12 Jun)

* 146,100 cfs (11 Jun)

Annual Flood Ctrl & Multi-Use Zone (Elevation)

* 1204.5 ft msl - 1210 ft msl

Exclusive Flood Ctrl Zone (Elevation)

* 1208 ft msl - 1210 ft msl

Top of Spillway Gates

* 1210 ft msl

Planned Scheduled Releases (Subject to Change)

* Releases will be stepped up to 150,000 cfs by mid June.

Record Pool Elevation (Year)

* 1209.7 msl (2010)

Record Flow (Date)

* 70,000 cfs (1997)

Projected Record Flow (Date)

* 150,000 cfs (Mid June)

Source of information: <http://www.nwd-mr.usace.army.mil/rcc>

Missouri River Mainstem 24-Hour Forecast Conditions (Updated 13 Jun; 0900 CDT)

24-hr forecast (Glasgow, MT)

Today: Patchy fog before 9am. Otherwise, mostly sunny, with a high near 79. Calm wind becoming south southwest from 7 to 10 mph.

Tonight: A chance of showers and t-storms. Mostly cloudy, with a low around 55. Southwest wind from 6 to 9 mph becoming calm. Chance of precipitation is 30%.

Tuesday: A chance of showers, with t-storms also possible after noon. Partly sunny, with a high near 74. Breezy, with a west northwest wind 9 to 12 mph increasing to from 19 to 22 mph. Winds could gust as high as 29 mph. Chance of precipitation is 30%.

24-hr forecast (Williston, ND)

Today: Mostly sunny, with a high near 76. West wind from 11 to 15 mph, with gusts as high as 18 mph.

Tonight: A slight chance of showers and t-storms. Mostly cloudy, with a low around 57. West wind from 5 to 8 mph becoming calm. Chance of precipitation is 20%.

Tuesday: Showers and t-storms likely. Mostly cloudy, with a high near 68. South wind at 10 mph becoming west. Chance of precipitation is 70%. New rainfall amounts from .25 to .5 of an inch possible.

24-hr forecast (Riverdale, ND)

Today: A 20% chance of showers and t-storms before 1pm. Partly sunny, with a high near 78. West wind from 13 to 16 mph, with gusts as high as 20 mph.

Tonight: Mostly cloudy, with a low around 57. West wind at 9 mph becoming southeast.

Tuesday: Showers and t-storms likely. Mostly cloudy, with a high near 72. South wind from 5 to 10 mph. Chance of precipitation is 70%. New rainfall amounts from .5 to .75 of an inch possible.

24-hr forecast (Washburn, ND)

Today: A 20% chance of showers and t-storms. Partly sunny, with a high near 77. West wind from 11 to 14 mph.

Tonight: Mostly cloudy, with a low around 57. West wind at 9 mph becoming east.

Tuesday: Showers and t-storms likely. Mostly cloudy, with a high near 72. South wind from 5 to 10 mph. Chance of precipitation is 70%. New rainfall amounts from .5 to .75 of an inch possible.

24-hr forecast (Bismarck/Mandan, ND)

Today: A 20% chance of showers and t-storms. Partly sunny, with a high near 78. West wind from 9 to 11 mph.

Tonight: A 20% chance of showers and t-storms before 1am. Mostly cloudy, with a low around 57. West wind 5 to 8 mph becoming east.

Tuesday: Showers and t-storms likely, mainly after 1pm. Mostly cloudy, with a high near 72. Southeast wind from 6 to 11 mph. Chance of precipitation is 70%. New rainfall amounts from .5 to .75 of an inch possible.

24-hr forecast (Pierre, SD)

Today: A 30 percent chance of showers and t-storms after 1pm. Some storms could be severe. Partly sunny, with a high near 80. North northwest wind from 5 to 7 mph.

Tonight: A 30% chance of showers and t-storms, mainly after 1am. Mostly cloudy, with a low around 61. Southeast wind from 6 to 9 mph.

Tuesday: Showers and t-storms likely, mainly after 1pm. Mostly cloudy, with a high near 77. East southeast wind 5 to 11 mph becoming west. Chance of precipitation is 70%.

24-hr forecast (Ft. Pierre, SD)

Today: A 30% chance of showers and t-storms after 1pm. Some storms could be severe. Partly sunny, with a high near 81. North northwest wind around 7 mph.

Tonight: A 30% chance of showers and t-storms, mainly after 1am. Mostly cloudy, with a low around 61. Southeast wind from 6 to 9 mph.

Tuesday: Showers and t-storms likely, mainly after 1pm. Mostly cloudy, with a high near 78. East southeast wind 6 to 11 mph becoming west. Chance of precipitation is 70%.

24-hr forecast (Lower Brule, SD)

Today: A 20% chance of showers and t-storms after 1pm. Some storms could be severe. Mostly cloudy, with a high near 79. South southeast wind from 7 to 9 mph.

Tonight: A 20% chance of showers and t-storms. Mostly cloudy, with a low around 61. Southeast wind from 7 to 13 mph.

Tuesday: Showers and t-storms likely, mainly after 1pm. Mostly cloudy, with a high near 78. East southeast wind 6 to 11 mph becoming south southwest. Chance of precipitation is 60%.

24-hr forecast (Chamberlain, SD)

Today: A slight chance of showers and t-storms. Mostly cloudy, with a high near 79. South southeast wind from 7 to 11 mph. Chance of precipitation is 20%.

Tonight: A slight chance of showers and t-storms before 1am. Mostly cloudy, with a low around 61. Southeast wind from 8 to 14 mph. Chance of precipitation is 20%.

Tuesday: Showers and t-storms likely, mainly after 1pm. Mostly cloudy, with a high near 76. South southeast wind from 7 to 11 mph. Chance of precipitation is 60%. New rainfall amounts from .25 to .5 of an inch possible.

24-hr forecast (Yankton, SD)

Today: Showers and t-storms likely before 10am, then a chance of showers and t-storms after 1pm. Mostly cloudy, with a high near 76. Southeast wind from 10 to 15 mph. Chance of precipitation is 60%. New rainfall amounts from .10 to .25 of an inch, except higher amounts possible in t-storms.

Tonight: A slight chance of showers and t-storms. Mostly cloudy, with a low around 61. East southeast wind from 6 to 11 mph. Chance of precipitation is 20%.

Tuesday: A chance of showers and t-storms after 1pm. Mostly cloudy, with a high near 75. East wind from 6 to 8 mph. Chance of precipitation is 40%.

24-hr forecast (Sioux City, IA)

Today: Scattered showers and t-storms before 10am, then a chance of showers and t-storms after 1pm. Mostly cloudy, with a high near 76. Southeast wind around 14 mph. Chance of precipitation is 50%.

Tonight: A chance of showers and t-storms. Mostly cloudy, with a low around 62. East southeast wind from 7 to 10 mph. Chance of precipitation is 50%.

Tuesday: A slight chance of showers and t-storms. Mostly cloudy, with a high near 75. East southeast wind from 7 to 11 mph. Chance of precipitation is 20%.

Source of information: <http://www.weather.gov>

24-hr forecast (Omaha, NE)

Today: A 20% chance of showers and t-storms after 4pm. Partly sunny, with a high near 77. Southeast wind from 13 to 15 mph, with gusts as high as 22 mph.

Tonight: A 30% chance of showers and t-storms, mainly from 7pm to 1am. Mostly cloudy, with a low around 64. East wind from 8 to 13 mph. New rainfall amounts from .10 to .25 of an inch, except higher amounts possible in t-storms.

Tuesday: A 20% chance of showers and t-storms after 1pm. Partly sunny, with a high near 77. East wind from 7 to 9 mph.

Source of information: <http://www.weather.gov/>

Internet: <http://www.nwo.usace.army.mil>

Facebook: <http://www.facebook.com/OmahaUSACE>

Twitter: <http://www.twitter.com/OmahaUSACE>

YouTube: <http://www.youtube.com/OmahaUSACE>

Flickr: <http://www.flickr.com/photos/omahausace>

Missouri River Flooding (Logistics) (Updated 13 Jun; 0900 CDT) Personnel Deployed

7 (Glasgow, MT)
3 (Garrison, ND)
4 (Bismarck, ND)
1 (Fort Yates, ND)
5 (Williston, ND)
6 (Pierre, SD)
1 (Kansas City, MO)
3 (Sioux City, IA)
3 (Dakota Dunes, SD)
3 (S. Sioux City, NE)
4 (Hamburg, IA)
5 (Missouri River Survey)
1 (Decatur, NE)
1 (Offutt, NE)
5 (North Platte, NE)
1 (Lincoln, NE)

Equipment Deployed

HESCO (3' and 4')

Issued: 51,270 LF

On Hand: 23,435 LF

Projected Outstanding Requirements: 39,000 LF

Sandbags

Issued: 14,251,000

On Hand: 4,803,500

Projected Outstanding Requirements: 6.5 M

Poly Rolls

Issued: 2,596 rolls

On Hand: 2,104 rolls

Projected Outstanding Requirements: 1,500 rolls

Pumps

Issued: 33 pumps

On Hand: 19 pumps

Projected Outstanding Requirements: 30 pumps

Additional Supplies due in:

SWL Pumps: Locating 4-5 pumps

Slingbags: 300 - 2K lb heavy bags with slings Source of information: CMT Brief (12 Jun 11)

Classification: UNCLASSIFIED

Caveats: NONE



Missouri River Mainstem Reservoir Bulletin (Updated 13 Jun; 0900 CDT)

Fort Peck (In operation since 1940)	Garrison (In operation since 1955)	Oahe (In operation since 1962)	Big Bend (In operation since 1964)	Fort Randall (In operation since 1953)	Gavins Point (In operation since 1955)
<p>Midnight Elevation</p> <ul style="list-style-type: none"> 2251.9 ft msl 24-hr Change (+0.2 ft) <p>Daily Avg. Inflow</p> <ul style="list-style-type: none"> 89,000 cfs (12 Jun) 91,000 cfs (11 Jun) <p>Daily Avg. Release</p> <ul style="list-style-type: none"> 63,700 cfs (12 Jun) 60,600 cfs (11 Jun) <p>Annual Flood Ctrl & Multi-Use Zone (Elevation)</p> <ul style="list-style-type: none"> 2234 ft msl – 2246 ft msl <p>Exclusive Flood Ctrl Zone (Elevation)</p> <ul style="list-style-type: none"> 2246 ft msl – 2250 ft msl <p>Top of Spillway Gates</p> <ul style="list-style-type: none"> 2250 ft msl <p>Planned Scheduled Releases (Subject to Change)</p> <ul style="list-style-type: none"> Releases will be stepped up to 65,000 cfs. Reservoir will use several feet of surcharge storage above the exclusive flood control pool as spillway gates are raised. <p>Record Pool Elevation (Year)</p> <ul style="list-style-type: none"> 2251.6 msl (1975) <p>Record Flow (Year)</p> <ul style="list-style-type: none"> 35,000 cfs (1975) <p>Projected Record Flow (Date)</p> <ul style="list-style-type: none"> 65,000 cfs (Mid June) 	<p>Midnight Elevation</p> <ul style="list-style-type: none"> 1853.3 ft msl 24-hr Change (+0.3 ft) <p>Daily Avg. Inflow</p> <ul style="list-style-type: none"> 142,000 cfs (12 Jun) 129,000 cfs (11 Jun) <p>Daily Avg. Release</p> <ul style="list-style-type: none"> 135,300 cfs (12 Jun) 135,200 cfs (11 Jun) <p>Annual Flood Ctrl & Multi-Use Zone (Elevation)</p> <ul style="list-style-type: none"> 1837.5 ft msl – 1850 ft msl <p>Exclusive Flood Ctrl Zone (Elevation)</p> <ul style="list-style-type: none"> 1850 ft msl – 1854 ft msl <p>Top of Spillway Gates</p> <ul style="list-style-type: none"> 1854 ft msl <p>River Stage (Bismarck)</p> <ul style="list-style-type: none"> 17.84 (0746 CDT 13 Jun) Flood stage – 16 ft 17.64 (0715 CDT 12 Jun) <p>Planned Scheduled Releases (Subject to Change)</p> <ul style="list-style-type: none"> Releases will be stepped up to 150,000 cfs by mid June. Spillway gates are being used to pass floodwaters. <p>Record Pool Elevation (Year)</p> <ul style="list-style-type: none"> 1854.8 msl (1975) <p>Record Flow (Year)</p> <ul style="list-style-type: none"> 65,000 cfs (1975) <p>Projected Record Flow (Date)</p> <ul style="list-style-type: none"> 150,000 cfs (Mid June) 	<p>Midnight Elevation</p> <ul style="list-style-type: none"> 1618.3 ft msl 24-hr Change (-0.3 ft) <p>Daily Avg. Inflow</p> <ul style="list-style-type: none"> 122,000 cfs (12 Jun) 131,000 cfs (11 Jun) <p>Daily Avg. Release</p> <ul style="list-style-type: none"> 150,400 cfs (12 Jun) 150,400 cfs (11 Jun) <p>Annual Flood Ctrl & Multi-Use Zone (Elevation)</p> <ul style="list-style-type: none"> 1607.5 ft msl – 1620 ft msl <p>Exclusive Flood Ctrl Zone (Elevation)</p> <ul style="list-style-type: none"> 1617 ft msl – 1620 ft msl <p>Top of Spillway Gates</p> <ul style="list-style-type: none"> 1620 ft msl <p>River Stage (Pierre)</p> <ul style="list-style-type: none"> 18.88 (0730 CDT 13 Jun) Flood stage – 15 ft 18.87 (0715 CDT 12 Jun) <p>Planned Scheduled Releases (Subject to Change)</p> <ul style="list-style-type: none"> Releases have been stepped up to 150,000 cfs. Reservoir will peak within a foot of the top of the spillway gates at 1619 feet. <p>Record Pool Elevation (Year)</p> <ul style="list-style-type: none"> 1618.7 msl (1995) <p>Record Flow (Year)</p> <ul style="list-style-type: none"> 59,000 cfs (1997) <p>Projected Record Flow (Date)</p> <ul style="list-style-type: none"> 150,000 cfs (Mid June) 	<p>Midnight Elevation</p> <ul style="list-style-type: none"> 1420.0 ft msl 24-hr Change (+0.4 ft) <p>Daily Avg. Inflow</p> <ul style="list-style-type: none"> 150,000 cfs (12 Jun) 146,000 cfs (11 Jun) <p>Daily Avg. Release</p> <ul style="list-style-type: none"> 149,400 cfs (12 Jun) 146,900 cfs (11 Jun) <p>Annual Flood Ctrl & Multi-Use Zone (Elevation)</p> <ul style="list-style-type: none"> 1420 ft msl – 1423 ft msl <p>Exclusive Flood Ctrl Zone (Elevation)</p> <ul style="list-style-type: none"> 1422 ft msl – 1423 ft msl <p>Top of Spillway Gates</p> <ul style="list-style-type: none"> 1423 ft msl <p>Planned Scheduled Releases (Subject to Change)</p> <ul style="list-style-type: none"> Releases will be stepped up to 150,000 cfs by mid June. Reservoir will remain essentially level at 1420 feet. <p>Record Pool Elevation (Year)</p> <ul style="list-style-type: none"> 1422.1 msl (1991) <p>Record Flow (Date)</p> <ul style="list-style-type: none"> 74,000 cfs (1997) <p>Projected Record Flow (Date)</p> <ul style="list-style-type: none"> 150,000 cfs (Mid June) 	<p>Midnight Elevation</p> <ul style="list-style-type: none"> 1362.5 ft msl 24-hr Change (+0.3 ft) <p>Daily Avg. Inflow</p> <ul style="list-style-type: none"> 155,000 cfs (12 Jun) 149,000 cfs (11 Jun) <p>Daily Avg. Release</p> <ul style="list-style-type: none"> 137,400 cfs (12 Jun) 137,500 cfs (11 Jun) <p>Annual Flood Ctrl & Multi-Use Zone (Elevation)</p> <ul style="list-style-type: none"> 1350 ft msl – 1375 ft msl <p>Exclusive Flood Ctrl Zone (Elevation)</p> <ul style="list-style-type: none"> 1365 ft msl – 1375 ft msl <p>Top of Spillway Gates</p> <ul style="list-style-type: none"> 1375 ft msl <p>Planned Scheduled Releases (Subject to Change)</p> <ul style="list-style-type: none"> Releases will be stepped up to 150,000 cfs by mid June. <p>Record Pool Elevation (Year)</p> <ul style="list-style-type: none"> 1372.2 msl (1997) <p>Record Flow (Date)</p> <ul style="list-style-type: none"> 67,000 cfs (1997) <p>Projected Record Flow (Date)</p> <ul style="list-style-type: none"> 150,000 cfs (Mid June) 	<p>Midnight Elevation</p> <ul style="list-style-type: none"> 1207.4 ft msl 24-hr Change (-0.3 ft) <p>Daily Avg. Inflow</p> <ul style="list-style-type: none"> 141,000 cfs (12 Jun) 145,000 cfs (11 Jun) <p>Daily Avg. Release</p> <ul style="list-style-type: none"> 144,900 cfs (12 Jun) 146,100 cfs (11 Jun) <p>Annual Flood Ctrl & Multi-Use Zone (Elevation)</p> <ul style="list-style-type: none"> 1204.5 ft msl – 1210 ft msl <p>Exclusive Flood Ctrl Zone (Elevation)</p> <ul style="list-style-type: none"> 1208 ft msl – 1210 ft msl <p>Top of Spillway Gates</p> <ul style="list-style-type: none"> 1210 ft msl <p>Planned Scheduled Releases (Subject to Change)</p> <ul style="list-style-type: none"> Releases will be stepped up to 150,000 cfs by mid June. <p>Record Pool Elevation (Year)</p> <ul style="list-style-type: none"> 1209.7 msl (2010) <p>Record Flow (Date)</p> <ul style="list-style-type: none"> 70,000 cfs (1997) <p>Projected Record Flow (Date)</p> <ul style="list-style-type: none"> 150,000 cfs (Mid June)



US Army Corps
of Engineers
Omaha District

Missouri River Mainstem 24-Hour Forecast Conditions (Updated 13 Jun; 0900 CDT)

Fort Peck	Garrison	Oahe	Big Bend	Fort Randall	Gavins Point
<p>24-hr forecast (Glasgow, MT) Today: Patchy fog before 9am. Otherwise, mostly sunny, with a high near 79. Calm wind becoming south southwest from 7 to 10 mph.</p> <p>Tonight: A chance of showers and t-storms. Mostly cloudy, with a low around 55. Southwest wind from 6 to 9 mph becoming calm. Chance of precipitation is 30%.</p> <p>Tuesday: A chance of showers, with t-storms also possible after noon. Partly sunny, with a high near 74. Breezy, with a west northwest wind 9 to 12 mph increasing to from 19 to 22 mph. Winds could gust as high as 29 mph. Chance of precipitation is 30%.</p> <p>24-hr forecast (Williston, ND) Today: Mostly sunny, with a high near 76. West wind from 11 to 15 mph, with gusts as high as 18 mph.</p> <p>Tonight: A slight chance of showers and t-storms. Mostly cloudy, with a low around 57. West wind from 5 to 8 mph becoming calm. Chance of precipitation is 20%.</p> <p>Tuesday: Showers and t-storms likely. Mostly cloudy, with a high near 68. South wind at 10 mph becoming west. Chance of precipitation is 70%. New rainfall amounts from .25 to .5 of an inch possible.</p>	<p>24-hr forecast (Riverdale, ND) Today: A 20% chance of showers and t-storms before 1pm. Partly sunny, with a high near 78. West wind from 13 to 16 mph, with gusts as high as 20 mph.</p> <p>Tonight: Mostly cloudy, with a low around 57. West wind at 9 mph becoming southeast.</p> <p>Tuesday: Showers and t-storms likely. Mostly cloudy, with a high near 72. South wind from 5 to 10 mph. Chance of precipitation is 70%. New rainfall amounts from .5 to .75 of an inch possible.</p> <p>24-hr forecast (Washburn, ND) Today: A 20% chance of showers and t-storms. Partly sunny, with a high near 77. West wind from 11 to 14 mph.</p> <p>Tonight: Mostly cloudy, with a low around 57. West wind at 9 mph becoming east.</p> <p>Tuesday: Showers and t-storms likely. Mostly cloudy, with a high near 72. South wind from 5 to 10 mph. Chance of precipitation is 70%. New rainfall amounts from .5 to .75 of an inch possible.</p>	<p>24-hr forecast (Pierre, SD) Today: A 30 percent chance of showers and t-storms after 1pm. Some storms could be severe. Partly sunny, with a high near 80. North northwest wind from 5 to 7 mph.</p> <p>Tonight: A 30% chance of showers and t-storms, mainly after 1am. Mostly cloudy, with a low around 61. Southeast wind from 6 to 9 mph.</p> <p>Tuesday: Showers and t-storms likely, mainly after 1pm. Mostly cloudy, with a high near 77. East southeast wind 5 to 11 mph becoming west. Chance of precipitation is 70%.</p> <p>24-hr forecast (Ft. Pierre, SD) Today: A 30% chance of showers and t-storms after 1pm. Some storms could be severe. Partly sunny, with a high near 81. North northwest wind around 7 mph.</p> <p>Tonight: A 30% chance of showers and t-storms, mainly after 1am. Mostly cloudy, with a low around 61. Southeast wind from 6 to 9 mph.</p> <p>Tuesday: Showers and t-storms likely, mainly after 1pm. Mostly cloudy, with a high near 78. East southeast wind 6 to 11 mph becoming south southwest. Chance of precipitation is 60%.</p>	<p>24-hr forecast (Lower Brule, SD) Today: A 20% chance of showers and t-storms after 1pm. Some storms could be severe. Mostly cloudy, with a high near 79. South southeast wind from 7 to 9 mph.</p> <p>Tonight: A 20% chance of showers and t-storms. Mostly cloudy, with a low around 61. Southeast wind from 7 to 13 mph.</p> <p>Tuesday: Showers and t-storms likely, mainly after 1pm. Mostly cloudy, with a high near 76. South southeast wind from 7 to 11 mph. Chance of precipitation is 60%. New rainfall amounts from .25 to .5 of an inch possible.</p>	<p>24-hr forecast (Chamberlain, SD) Today: A slight chance of showers and t-storms. Mostly cloudy, with a high near 79. South southeast wind from 7 to 11 mph. Chance of precipitation is 20%.</p> <p>Tonight: A slight chance of showers and t-storms before 1am. Mostly cloudy, with a low around 61. Southeast wind from 8 to 14 mph. Chance of precipitation is 20%.</p> <p>Tuesday: Showers and t-storms likely, mainly after 1pm. Mostly cloudy, with a high near 76. South southeast wind from 7 to 11 mph. Chance of precipitation is 60%. New rainfall amounts from .25 to .5 of an inch possible.</p>	<p>24-hr forecast (Yankton, SD) Today: Showers and t-storms likely before 10am, then a chance of showers and t-storms after 1pm. Mostly cloudy, with a high near 76. Southeast wind from 10 to 15 mph. Chance of precipitation is 60%. New rainfall amounts from .10 to .25 of an inch, except higher amounts possible in t-storms.</p> <p>Tonight: A slight chance of showers and t-storms. Mostly cloudy, with a low around 61. East southeast wind from 6 to 11 mph. Chance of precipitation is 20%.</p> <p>Tuesday: A chance of showers and t-storms after 1pm. Mostly cloudy, with a high near 75. East wind from 6 to 8 mph. Chance of precipitation is 40%.</p> <p>24-hr forecast (Sioux City, IA) Today: Scattered showers and t-storms before 10am, then a chance of showers and t-storms after 1pm. Mostly cloudy, with a high near 76. Southeast wind around 14 mph. Chance of precipitation is 50%.</p> <p>Tonight: A chance of showers and t-storms. Mostly cloudy, with a low around 62. East southeast wind from 7 to 10 mph. Chance of precipitation is 50%.</p> <p>Tuesday: A slight chance of showers and t-storms. Mostly cloudy, with a high near 75. East southeast wind from 7 to 11 mph. Chance of precipitation is 20%.</p>

Source of information: <http://www.weather.gov>



Missouri River Mainstem 24-Hour Forecast Conditions (Updated 12 Jun; 0900 CDT)

Fort Peck	Garrison	Osage	Big Bend	Fort Randall	Gavins Point
	<p>24-hr forecast (Bismarck/Mandan, ND) Today: A 20% chance of showers and t-storms. Partly sunny, with a high near 78. West wind from 9 to 11 mph.</p> <p>Tonight: A 20% chance of showers and t-storms before 1am. Mostly cloudy, with a low around 57. West wind 5 to 8 mph becoming east.</p> <p>Tuesday: Showers and t-storms likely, mainly after 1pm. Mostly cloudy, with a high near 72. Southeast wind from 6 to 11 mph. Chance of precipitation is 70%. New rainfall amounts from .5 to .75 of an inch possible.</p>				<p>24-hr forecast (Omaha, NE) Today: A 20% chance of showers and t-storms after 4pm. Partly sunny, with a high near 77. Southeast wind from 13 to 15 mph, with gusts as high as 22 mph.</p> <p>Tonight: A 30% chance of showers and t-storms, mainly from 7pm to 1am. Mostly cloudy, with a low around 64. East wind from 8 to 13 mph. New rainfall amounts from .10 to .25 of an inch, except higher amounts possible in t-storms.</p> <p>Tuesday: A 20% chance of showers and t-storms after 1pm. Partly sunny, with a high near 77. East wind from 7 to 9 mph.</p>

Source of information: <http://www.weather.gov/>

Internet: <http://www.nwo.usace.army.mil>

Facebook: <http://www.facebook.com/OmahaUSACE>

Twitter: <http://www.twitter.com/OmahaUSACE>

YouTube: <http://www.youtube.com/OmahaUSACE>

Flickr: <http://www.flickr.com/photos/omahausace>



Missouri River Flooding (Logistics) (Updated 13 Jun; 0900 CDT)

Personnel Deployed		
7 (Glasgow, MT) 3 (Garrison, ND) 4 (Bismarck, ND) 1 (Fort Yates, ND) 5 (Williston, ND)	6 (Pierre, SD) 1 (Kansas City, MO) 3 (Sioux City, IA) 3 (Dakota Dunes, SD) 3 (S. Sioux City, NE) 4 (Hamburg, IA)	5 (Missouri River Survey) 1 (Decatur, NE) 1 (Offutt, NE) 5 (North Platte, NE) 1 (Lincoln, NE)
Equipment Deployed		
HESCO (3' and 4') Issued: 51,270 LF On Hand: 23,435 LF Projected Outstanding Requirements: 39,000 LF		Additional Supplies due in: SWL Pumps: Locating 4-5 pumps Slingbags: 300 - 2K lb heavy bags with slings
Sandbags Issued: 14,251,000 On Hand: 4,803,500 Projected Outstanding Requirements: 6.5 M		
Poly Rolls Issued: 2,596 rolls On Hand: 2,104 rolls Projected Outstanding Requirements: 1,500 rolls		
Pumps Issued: 33 pumps On Hand: 19 pumps Projected Outstanding Requirements: 30 pumps		

NWO

From:
Sent:
To:
Subject:

Monday, June 13, 2011 9:29 AM

SEE GLENND PDS, M. #1111, Roy F. of NWO
Monday Rain Report

2011 - 14:02:16
0

>>>>>>> PAGESIZE 60
>>>>>>> DUMPPP24 * *

0**NOTE** DATA FOR THE PERIOD 06/13/2011-12Z THROUGH 06/13/2011-12Z WILL BE PROCESSED.
QUANTITY DESC (0.01)
OBSONLY
END

0PP24 DATA FOR 06/13/11-12Z THRU 06/13/11-12Z

0 - = MISSING VALUE OR SUM E = ESTIMATED VALUE P = PARTIAL SUM

0STATION			PERIOD
ID	DESCRIPTION	STATE	SUM
-----	-----	-----	-----
CETN8	CENTER 4SE	ND	3.80 3.81
0581N8	CENTER 1E	ND	3.57 3.58
0592N8	HANNOVER 3E	ND	2.48 2.49
GLNN8	GLEN ULLIN	ND	2.33 2.34
NWSN8	NEW SALEM 5NW	ND	2.18E 2.19
GLUN8	HEART BUTTE DAM	ND	2.00 2.01
AMNN8	ALMONT	ND	1.92E 1.92
RICN8	RICHARDTON, HEART R	ND	1.90E 1.90
MDNN8	MANDAN 3W, HEART R	ND	1.80 1.80
ALTN8	ALMONT, BIG MUDDY CR	ND	1.68E 1.68
HEBN8	HEBRON	ND	1.68E 1.68
DIK	DICKINSON AIRPORT	ND	1.67 1.67
JUDN8	JUDSON 9SSE, HEART R	ND	1.66E 1.66
PWDN8	PAINTED WOODS CR	ND	1.65E 1.65
MSSS2	MISSION	SD	1.57 1.58
WTON8	WILTON	ND	1.55 1.55
WSHN8	WASHBURN, TURTLE CR	ND	1.48E 1.49
MESN8	MANDAN EXP STATION	ND	1.45E 1.46
TCHN8	HEART R ABV TSCHIDA	ND	1.44E 1.45
EGNN8	ELGIN	ND	1.35E 1.36
RETS2	REE HEIGHTS 15S	SD	1.35 1.36
OKES2	OKREEK 4SSW	SD	1.30E 1.30
LRKN8	LARK 10N, HEART R	ND	1.26E 1.26
WSBN8	WASHBURN, MISSOURI R	ND	1.25E 1.25
CRSN8	CARSON, ANTELOPE CR	ND	1.24E 1.25
WASN8	WASHBURN	ND	1.23E 1.24
RDTN8	RICHARDTON ABBEY	ND	1.22E 1.23
WEWS2	WEWELA 1N	SD	1.22 1.23
0134N8	BALDWIN 1W	ND	1.20 1.21
OKRS2	OKREEK 4W	SD	1.20E 1.21
HZNN8	HAZEN 1S, KNIFE R	ND	1.09E 1.10
RDRN8	REEDER	ND	1.08 1.09
GDVN8	GOLDEN VALLEY 10S	ND	1.07E 1.08
UNDN8	UNDERWOOD	ND	1.07 1.08
PAHS2	KEYAPAHA, KEYAPAHA R	SD	1.06E 1.06

LINM7	LINNEUS	MO	1.05E	1.05
LNNM7	LINNEUS 3SE	MO	1.05	1.05
WUDS2	WOOD	SD	1.05E	1.05
0126N8	WILTON 7NE	ND	1.03E	1.03
DOGS2	HE DOG LAKE	SD	1.02E	1.02
NWEN8	NEW ENGLAND	ND	1.02E	1.02
MNON8	MINOT EXP STATION	ND	0.99	1.00
TULN8	TURTLE LAKE	ND	0.99E	1.00
HAZN8	HAZEN 2W	ND	0.97E	0.98
MSNS2	MISSION 14S	SD	0.96	0.96
BLFN8	BELFIELD 1SW	ND	0.93E	0.94
MHLN8	MARSHALL, KNIFE R	ND	0.93E	0.94
LSNN8	MINOT 3SE	ND	0.91E	0.92

1NWSRFS FORECAST SYSTEM - PROGRAM PPDUTIL (VERSION: ob8.1 - 03/20/07) USER=MBRFC
 DATE=Jun 13, 2011 - 14:02:16

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STATION	DESCRIPTION	STATE	06/13	PERIOD SUM
PAES2	PARMELEE 7SSW	SD	0.91E	0.92
WHEI1	WHITE ELEPHANT	ID	0.90	0.90
BEUN8	BEULAH 1W	ND	0.89E	0.89
BISN8	BISMARCK 7N	ND	0.87E	0.88
PAMS2	PARMELEE 7SSW	SD	0.87E	0.88
BUAN8	BEULAH 2NW	ND	0.86	0.87
BIS	BISMARCK AIRPORT	ND	0.86	0.87
BIWN8	BISMARCK, MISSOURI R	ND	0.85E	0.86
ZAPN8	ZAP, SPRING CR	ND	0.85E	0.86
0853N8	MAX 8N	ND	0.84E	0.84
HCKN8	BISMARCK, HAY CREEK	ND	0.83E	0.83
BUFS2	BUFFALO	SD	0.83E	0.83
2WX	BUFFALO	SD	0.83	0.83
BFFS2	BUFFALO	SD	0.83E	0.83
GASN8	MINOT 4W	ND	0.83E	0.83
KEYA001	SPRINGVIEW 17WNW	NE	0.82E	0.82
TLRN8	TAYLOR 7NNW	ND	0.82E	0.82
BTWS2	BRENTWOOD COLONY	SD	0.81	0.81
MAXN8	MAX	ND	0.81E	0.81
BMKN8	BISMARCK 5NNW	ND	0.80	0.81
MNKN8	MENOKEN 2WNW	ND	0.80E	0.81
WILW4	WILLOW CREEK	WY	0.80	0.81
YEN	ESTEVA	SK	0.75E	0.75
GARN8	GARRISON DAM	ND	0.75E	0.75
MOT	MINOT INTL AIRPORT	ND	0.75	0.75
RIVN8	RIVERDALE	ND	0.75E	0.75
WRVS2	WHITE RIVER	SD	0.75E	0.75
LWRS2	WHITE RIVER 2N	SD	0.75	0.75
YTNS2	YANKTON 2E	SD	0.75	0.75
AFOW4	AFTON EXP FARM	WY	0.73E	0.74
YANS2	YANKTON, MISSOURI R	SD	0.73E	0.74
OZMN1	OSMOND	NE	0.72	0.73
0517N8	ST ANTHONY 7NE	ND	0.72E	0.73
MIB	MINOT AFB	ND	0.71	0.71
OSMN1	OSMOND	NE	0.71E	0.71
BUTN1	BUTTE	NE	0.70	0.70
GSNN8	GARRISON	ND	0.70E	0.70
N60	GARRISON 1W	ND	0.70	0.70

VLVN8	VELVA	ND	0.69E	0.69
WLD	WINFIELD AIRPORT	KS	0.69	0.69
RSBS2	ROSEBUD 6N	SD	0.67E	0.68
STES2	STEPHAN 10SE	SD	0.67E	0.68
DNDN8	DICKINSON DAM	ND	0.66E	0.67
CANN8	CARSON	ND	0.65E	0.65
GHOS2	GHOST HAWK LAKE	SD	0.65E	0.65
GRGS2	GREGORY	SD	0.65E	0.65
ILLS2	MILLER 15S	SD	0.65E	0.65
CDRS2	CEDAR BUTTE 1NE	SD	0.64E	0.64
CFTN1	CROFTON 8N	NE	0.64E	0.64
GPDN1	GAVINS PT DAM	NE	0.64E	0.64
SLMS2	SALEM 5NE	SD	0.63	0.63
BRTN8	BERTHOLD	ND	0.62E	0.63
MANN8	MANDAN, MISSOURI R	ND	0.61E	0.62

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STATION			PERIOD
ID	DESCRIPTION	STATE	06/13 SUM
MURS2	MURDO	SD	0.61E 0.62
WINS2	WINNER	SD	0.61E 0.62
SFD	WINNER AIRPORT	SD	0.61E 0.62
ICR	WINNER AIRPORT	SD	0.61 0.62
BLBM8	BLACK BEAR	MT	0.60 0.61
HLIN8	HALLIDAY	ND	0.60E 0.61
CDJ	CHILLICOTHE	MO	0.59 0.59
ICT	WICHITA	KS	0.59 0.59
FAXS2	FAIRFAX #2	SD	0.58E 0.58
LUDS2	LUDLOW 3SSE	SD	0.58E 0.58
MNGN8	MANNING, KNIFE R	ND	0.58 0.58
ISPI1	ISLAND PARK 9ENE	ID	0.57E 0.57
MERS2	MILLER 15S	SD	0.57E 0.57
PKRS2	PARKER, WEST FORK	SD	0.57 0.57
SSMM8	SOUTH SAWMILL GDDS	MT	0.57 0.57
BONS2	BONESTEEL	SD	0.56E 0.56
0759N8	DICKINSON 2NW	ND	0.56E 0.56
DCKN8	DICKINSON EXP STN	ND	0.56 0.56
ISWI1	ISLAND PARK	ID	0.56E 0.56
SOSS2	SOUTH SHORE 8W	SD	0.56 0.56
LVEW4	LOVELL, BIGHORN R	WY	0.55 0.56
MARS2	MARION	SD	0.55E 0.56
YKN	YANKTON	SD	0.55 0.56
BBDS2	BIG BEND DAM	SD	0.54E 0.55
BULS2	BUFFALO 14SSW AMRAD	SD	0.54E 0.55
COLN8	COLUMBUS	ND	0.54E 0.55
DRHN8	DICKINSON RANCH HQ	ND	0.54E 0.55
TGSN8	TAGUS	ND	0.54E 0.55
TURN8	TURTLE LAKE 4N	ND	0.53E 0.53
WBWS2	WATERTOWN (BROADWAY)	SD	0.53 0.53
FOXN8	FOXHOLM 7N	ND	0.52E 0.52
SPCN1	SPENCER, NIOBRARA R	NE	0.52E 0.52
WLPS2	WALL LAKE	SD	0.52 0.52
WLKS2	WALL LAKE	SD	0.52E 0.52
WRTS2	WATERTOWN 1W	SD	0.52E 0.52
BERN8	BERTHOLD 4NW	ND	0.51E 0.51

CACS2	CAMP CROOK	SD	0.51	0.51
CAMS2	CAMP CROOK 1NW RAW	SD	0.51E	0.51
MVNS2	MARVIN 9SW	SD	0.51E	0.51
WATS2	WATERTOWN	SD	0.51E	0.51
BLTM8	BEARTOOTH LAKE	MT	0.50	0.50
PIPS2	BELVIDERE 6SE	SD	0.50	0.50
CHMN1	CHAMBERS	NE	0.50	0.50
CRBI1	CRAB CREEK	ID	0.50	0.50
BUDS2	ROSEBUD LAKE	SD	0.50E	0.50
SAJM8	SACAJAWEA	MT	0.50	0.50
WTTS2	WATERTOWN (AMRAD)	SD	0.50E	0.50
FLOS2	FLORENCE, BIG SIOUX	SD	0.49E	0.50
HRTN1	HARTINGTON	NE	0.49	0.50
HOHS2	HOT SPRINGS (AMRAD)	SD	0.49E	0.50
HOTS2	HOT SPRINGS, FALL R	SD	0.49	0.50
MIDS2	MIDLAND, BAD R	SD	0.49	0.50
MUDS2	MURDO (AMRAD)	SD	0.49E	0.50

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ID	DESCRIPTION	STATE	06/13 SUM
STPS2	STEPHAN 2NW	SD	0.49E 0.50
CRFN1	CROFTON	NE	0.48E 0.48
FBLM8	HARLEM 4SSE	MT	0.48 0.48
HOSS2	HOT SPRINGS	SD	0.48E 0.48
CBKS2	COLD BROOK DAM	SD	0.47E 0.47
CCKS2	FORT THOMPSON 3E	SD	0.47E 0.47
MLKN8	MCCLUSKY	ND	0.47E 0.47
RGNN8	REGAN 6NE	ND	0.47E 0.47
TWBS2	TWIN BROOKS 4W	SD	0.47E 0.47
UTIS2	UTICA	SD	0.47E 0.47
WPTN1	WEST POINT	NE	0.47 0.47
EKHM8	ELKHORN RAW	MT	0.46 0.47
LADS2	LADNER 9SW	SD	0.46E 0.47
MONS2	MONTROSE	SD	0.46E 0.47
WPNN1	WEST POINT, ELKHORN R	NE	0.46E 0.47
BUOS2	ANTELOPE RANGER STA	SD	0.45E 0.45
BFRN8	BALFOUR 3SW	ND	0.45 0.45
GCEN8	GRACE CITY, JAMES R	ND	0.45 0.45
RVLS2	RAUVILLE 2S	SD	0.45 0.45
ATY	WATERTOWN AIRPORT	SD	0.45 0.45
BBLN8	BOWBELLS	ND	0.44 0.44
BWBN8	BOWBELLS 1N	ND	0.44E 0.44
HARS2	HARDING 3SE	SD	0.44E 0.44
PINS2	INTERIOR 15SW RAW	SD	0.44E 0.44
HRAN8	NEW HRADEC, GREEN R	ND	0.44E 0.44
ONKS2	ONAKA 2N	SD	0.44E 0.44
PTRN8	PRETTY ROCK	ND	0.44E 0.44
RIFM7	RICH FOUNTAIN	MO	0.44 0.44
FSD	SIOUX FALLS	SD	0.44 0.44
CDHS2	COTTONWOOD DAM	SD	0.43E 0.44
DNCN8	DUNN CENTER 1E	ND	0.43E 0.44
FHMN8	FOXHOLM 7N	ND	0.43E 0.44
KLLN8	KILLDEER	ND	0.43 0.44
SIWS2	SISSETON 4W	SD	0.43 0.44

BTEN8	BUTTE 5SE	ND	0.42E	0.42
HUMS2	HUMBOLT	SD	0.42E	0.42
FSDS2	SIOUX FALLS WFO	SD	0.42E	0.42
WMTS2	WILMOT 1ENE	SD	0.42	0.42
OLF	WOLF POINT	MT	0.42	0.42
ZRTM8	ZORTMAN	MT	0.42E	0.42
ALDM8	ZORTMAN MINE RAWS	MT	0.42	0.42
HEI	HETTINGER	ND	0.41	0.41
HETN8	HETTINGER EXP STN	ND	0.41E	0.41
KZBS2	KRANZBURG	SD	0.41E	0.41
MONN8	MONTPELIER	ND	0.41	0.41
VVV	ORTONVILLE	MN	0.41E	0.41
PRKS2	PARKER, WEST FORK	SD	0.41E	0.41
RPHS2	RALPH 1N	SD	0.41E	0.41
WWCS2	WATERTOWN 3NE	SD	0.41	0.41
AWSW4	ADAMS RAWS	WY	0.40	0.41
BATS2	BATTLE MTN NFS	SD	0.40E	0.41
BBSW4	BLIND BULL SUMMIT	WY	0.40	0.41
CHLM7	CHILLICOTHE	MO	0.40E	0.41

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STATION				PERIOD
ID	DESCRIPTION	STATE	06/13	SUM
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CMDM8	CLOVER MEADOW	MT	0.40	0.41
FSHM8	FISHER CREEK	MT	0.40	0.41
GRSW4	GRASSY LAKE	WY	0.40	0.41
GRLW4	GRASSY LAKE DAM	WY	0.40E	0.41
GOSN1	GROSS 1E	NE	0.40E	0.41
MPLM8	MADISON PLATEAU	MT	0.40	0.41
BCPS2	PEEVER 4S	SD	0.40	0.41
PHBW4	PHILLIPS BENCH	WY	0.40	0.41
RKPM8	ROCKER PEAK	MT	0.40	0.41
SFLS2	SIOUX FALLS 38A	SD	0.40E	0.41
RSRS2	SIOUX FALLS 5SW	SD	0.40E	0.41
SIFS2	SIOUX FALLS, SKUNK CR	SD	0.40	0.41
SCDW4	SPRING CREEK DIVIDE	WY	0.40	0.41
ATRS2	BUFFALO 14SE	SD	0.39E	0.39
CLEN1	COLERIDGE	NE	0.39E	0.39
0063N8	GRASSY BUTTE 9SE	ND	0.39E	0.39
ANNS2	LEAD 6SW, ANNIE CR	SD	0.39	0.39
PIPM5	PIPESTONE	MN	0.39	0.39
SXFS2	SIOUX FALLS NO CLIFF	SD	0.39E	0.39
BSWS2	WATERTOWN, BIG SIOUX	SD	0.39E	0.39
WTRS2	WATERTOWN, BIG SIOUX	SD	0.39	0.39
FLAN8	FLASHER	ND	0.38	0.38
HYSK1	HAYS, BIG CREEK	KS	0.38	0.38
PKS	PICKSTOWN	SD	0.38E	0.38
PKSS2	PICKSTOWN	SD	0.38	0.38
REGN8	REGENT, CANNONBALL R	ND	0.38E	0.38
AMIN8	AMIDON	ND	0.37E	0.38
GRBN8	GRASSY BUTTE 2ENE	ND	0.37	0.38
HFDS2	HARTFORD	SD	0.37E	0.38
KILN8	KILLDEER 8NW	ND	0.37E	0.38
KAMS2	LAKE KAMPESKA	SD	0.37E	0.38
MCHN8	MCHENRY 3W	ND	0.37E	0.38

WCAS2	PRINGLE SSE	SD	0.37	0.38
RALS2	RAUVILLE 2W	SD	0.37E	0.38
SPKN1	SPARKS, NIOBRARA R	NE	0.37E	0.38
SPVN1	SPRINGVIEW	NE	0.37	0.38
SMTS2	SUMMIT	SD	0.37E	0.38
TEAS2	TEA (AMRAD)	SD	0.37E	0.38
CHER007	VALENTINE 10WNW	NE	0.37E	0.38
WNDS2	WIND CAVE NATL PARK	SD	0.37E	0.38
BGRM8	BOZEMAN 12NE	MT	0.36E	0.37
BKFS2	CUSTER 10NW	SD	0.36E	0.37
DKEN8	DRAKE 8NE	ND	0.36E	0.37
GILW4	GILLETTE 4SE	WY	0.36E	0.37
HAYK1	HAYS	KS	0.36E	0.37
HWPk1	HAYS	KS	0.36E	0.37
IRRS2	INTERIOR, WHITE R	SD	0.36	0.37
PVRS2	PEEVER 8NNE	SD	0.36	0.37
PLVN1	PLAINVIEW	NE	0.36E	0.37
SIOS2	SIOUX FALLS	SD	0.36E	0.37
SSTS2	SISSETON (AMRAD)	SD	0.36E	0.37
WAVS2	SUX FALLS WESTERN AV	SD	0.36	0.37
WBSS2	WATERTOWN, BIG SIOUX	SD	0.36	0.37

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ID	DESCRIPTION	STATE	06/13 SUM
ATAW4	ALTA	WY	0.35E 0.35
BKRW4	BECHLER RANGER STA	WY	0.35E 0.35
BRGS2	BRIDGEWATER	SD	0.35E 0.35
BGPS2	BUFFALO GAP	SD	0.35E 0.35
HAFS2	HARTFORD	SD	0.35E 0.35
LTHN8	LITCHVILLE 2NW	ND	0.35E 0.35
OAKN8	OAKES	ND	0.35 0.35
WCMS2	SIOUX FALLS 6SE	SD	0.35E 0.35
STJN1	ST JAMES	NE	0.35E 0.35
BGSM8	BIG SKY 2WNW	MT	0.34E 0.34
BEAS2	BUFFALO GAP 2S	SD	0.34E 0.34
CLBS2	COLUMBIA 1W	SD	0.34 0.34
INTS2	INTERIOR 3NE	SD	0.34E 0.34
KDAS2	KADOKA	SD	0.34E 0.34
LOVW4	LOVELL	WY	0.34E 0.34
RENS2	RENNER	SD	0.34E 0.34
SENS2	SENECA	SD	0.34E 0.34
FUHS2	SIOUX FALLS 7S	SD	0.34E 0.34
WIGN8	WING	ND	0.34E 0.34
YNNs2	YANKTON, JAMES R	SD	0.34E 0.34
27D	CANBY	MN	0.33E 0.34
CMBS2	COLUMBIA 1S, JAMES R	SD	0.33E 0.34
COUN8	COURTENAY 1NW	ND	0.33E 0.34
JAC	JACKSON HOLE AIRPORT	WY	0.33E 0.34
KDKS2	KADOKA 6S, WHITE R	SD	0.33 0.34
KIGN1	KILGORE 1NE	NE	0.33E 0.34
PLZN8	PLAZA 10S	ND	0.33E 0.34
RAUN8	RAUB 5NNE	ND	0.33E 0.34
WLFM8	WOLF POINT	MT	0.33E 0.34
GSWM8	BIG SKY 3S	MT	0.32E 0.32

BLON1	BLOOMFIELD	NE	0.32	0.32
BOWN8	BOWMAN	ND	0.32E	0.32
FAIN8	FAIRFIELD	ND	0.32E	0.32
KNMN8	KENMARE 1WSW	ND	0.32E	0.32
LBNM5	LAKE BENTON	MN	0.32E	0.32
MOOW4	MOOSE	WY	0.32E	0.32
SSSS2	SISSETON	SD	0.32E	0.32
8D3	SISSETON	SD	0.32	0.32
VTTS2	VICTOR	SD	0.32E	0.32
ABR	ABERDEEN AIRPORT	SD	0.31	0.31
ASTS2	ASTORIA 4S	SD	0.31	0.31
CBYN8	CROSBY	ND	0.31E	0.31
FAAS2	FAULKTON 6ESE	SD	0.31E	0.31
HTFS2	HARTFORD, SKUNK CR	SD	0.31	0.31
HRVM8	HAVRE #2	MT	0.31E	0.31
HVR	HAVRE AIRPORT	MT	0.31	0.31
HBDM8	HEBGEN DAM	MT	0.31E	0.31
HDKM5	HENDRICKS	MN	0.31E	0.31
HUT	HUTCHISON AIRPORT	KS	0.31	0.31
LYNS2	LYONS 5SSW	SD	0.31E	0.31
MTRS2	MONTROSE 8N	SD	0.31E	0.31
VRPS2	PARKER, EAST FORK	SD	0.31	0.31
WPTS2	WESTPORT	SD	0.31	0.31

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ETH	WHEATON	MN	0.31E	0.31
BEVM8	BEAVER CREEK	MT	0.30	0.31
CRRM8	CARROT BASIN	MT	0.30	0.31
CARS2	CARTHAGE	SD	0.30	0.31
DHLM8	DARKHORSE LAKE	MT	0.30	0.31
DOLS2	DOLAND	SD	0.30	0.31
LKSS2	FORT THOMPSON	SD	0.30E	0.31
FRHM8	FROHNER MEADOW	MT	0.30	0.31
GAAM8	GALENA RAWS	MT	0.30E	0.31
GCC	GILLETTE	WY	0.30	0.31
GRVW4	GROS VENTRE SUMMIT	WY	0.30	0.31
HBRM8	HEBGEN LAKE RAWS	MT	0.30E	0.31
LDGS2	LODGEPOLE 10NW	SD	0.30E	0.31
BSKM8	LONE MOUNTAIN	MT	0.30	0.31
NORM8	NORTHEAST ENTRANCE	MT	0.30	0.31
PCKM8	PICKFOOT CREEK	MT	0.30	0.31
RAUS2	RAUVILLE 2N, MUD CR	SD	0.30	0.31
RKVI4	ROCK VALLEY, ROCK R	IA	0.30	0.31
SKRW4	SNAKE RIVER STATION	WY	0.30	0.31
TOGW4	TOGWOTEE PASS	WY	0.30	0.31
TOWM8	TOWNSEND	MT	0.30E	0.31
TOPW4	TWO OCEAN PLATEAU	WY	0.30	0.31
BERS2	WANBLEE 9WSW	SD	0.30E	0.31
WYSM8	WEST YELLOWSTONE	MT	0.30	0.31
YOUW4	YOUNTS PEAK	WY	0.30	0.31
AMEN1	AMELIA	NE	0.29E	0.29
ANGS2	ANGOSTURA DAM BELOW	SD	0.29	0.29
BSTM8	BIG SKY RESORT	MT	0.29E	0.29

CHOM7	CHILLICOTHE RAWS	MO	0.29	0.29
FAUS2	FAULKTON 1NW	SD	0.29E	0.29
GDNS2	GARDEN CITY	SD	0.29E	0.29
OACS2	OACOMA 9SW, WHITE R	SD	0.29	0.29
BCKN8	OAKES 6NNE, BEAR CR	ND	0.29E	0.29
ORLS2	ORAL	SD	0.29	0.29
JAMN8	PIPESTEM RES	ND	0.29	0.29
RFDS2	REDFIELD, JAMES R	SD	0.29	0.29
SFMS2	SUX FALLS, MAPLE ST	SD	0.29	0.29
YLWM8	YELLOW MULE RAWS	MT	0.29E	0.29
WYGM8	YELLOWSTONE GATEWAY	MT	0.29E	0.29
YNTW4	YOUNTS PEAK	WY	0.29E	0.29
KDNS2	ABERDEEN 6SE	SD	0.28E	0.28
CHKM8	CHINOOK 35SE	MT	0.28E	0.28
DEVW4	DEAVER	WY	0.28E	0.28
TOFW4	DUBOIS 41NNW	WY	0.28E	0.28
DBSI1	DUBOIS EXP STATION	ID	0.28E	0.28
FALS2	FAULKTON	SD	0.28E	0.28
ASN8	FORT ASSINNIBOINE	MT	0.28E	0.28
GINM8	GINGER RAWS	MT	0.28	0.28
IONS2	IONA 2NE	SD	0.28E	0.28
JMS	JAMESTOWN AIRPORT	ND	0.28	0.28
LKWM5	LAKE WILSON	MN	0.28E	0.28
LITS2	MARTIN, LTL WHITE R	SD	0.28	0.28
LVSS2	SALEM 5NE	SD	0.28	0.28

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SILS2	SISSETON 11SW	SD	0.28E	0.28
SKCM8	SOUTH KIRBY RAWS	MT	0.28E	0.28
THRW4	THOROFARE	WY	0.28E	0.28
TVLS2	TUNERVILLE	SD	0.28E	0.28
WSTS2	WESTPORT 3SE	SD	0.28E	0.28
ADRN8	ADRIAN	ND	0.27E	0.28
ARLS2	ARLINGTON 1W	SD	0.27E	0.28
BZN	BOZEMAN AIRPORT	MT	0.27	0.28
BRKM7	BROOKFIELD	MO	0.27	0.28
BEKM7	BROOKFIELD	MO	0.27E	0.28
9V9	CHAMBERLAIN	SD	0.27	0.28
CREN1	CREIGHTON	NE	0.27E	0.28
1950N8	ELGIN	ND	0.27E	0.28
GIBM8	GIBBONS PASS	MT	0.27E	0.28
LGVS2	LONGVALLEY	SD	0.27E	0.28
OLFW4	OLD FAITHFUL	WY	0.27E	0.28
SCSK1	SCHOENCHEN 2E	KS	0.27E	0.28
SBCM8	SILVER GATE 2WSW	MT	0.27	0.28
STBM8	STEAMBOAT RAWS	MT	0.27	0.28
TWKN8	TEWAUKON RAWS	ND	0.27E	0.28
VALN8	VALLEY CITY 3NNW	ND	0.27E	0.28
WYS	WEST YELLOWSTONE	MT	0.27E	0.28
MDSM8	WEST YELLOWSTONE 2E	MT	0.27E	0.28
ROCK002	BASSETT 14SE	NE	0.26E	0.26
BRKS2	BROOKINGS, BIG SIOUX	SD	0.26	0.26
CBRS2	CHAMBERLAIN 5S	SD	0.26E	0.26

CRKS2	CROOKS	SD	0.26E	0.26
WCCS2	CROOKS, WILLOW CR	SD	0.26	0.26
ENNM8	ENNIS RAWS	MT	0.26E	0.26
GAVS2	GANN VALLEY 9NW	SD	0.26E	0.26
GETW4	GILLETTE 10N	WY	0.26E	0.26
GFDN8	GLENFIELD	ND	0.26E	0.26
HZZS2	HAYES 7SW	SD	0.26E	0.26
HYS	HAYS AIRPORT	KS	0.26	0.26
HBGM8	HEBGEN DAM	MT	0.26E	0.26
HLN	HELENA AIRPORT	MT	0.26	0.26
JTWN8	JAMESTOWN HOSPITAL	ND	0.26	0.26
JMSN8	JAMESTOWN, JAMES R	ND	0.26E	0.26
KYLS2	KYLE	SD	0.26E	0.26
MRTS2	MARTIN	SD	0.26E	0.26
MATN8	MOTT 1N	ND	0.26E	0.26
PIER008	PIERCE 9W	NE	0.26E	0.26
PMPM8	POMPEYS PILLAR 18N	MT	0.26E	0.26
RDFS2	REDFIELD	SD	0.26E	0.26
0124N8	STERLING 6SE	ND	0.26E	0.26
TGWW4	TOGWOTEE	WY	0.26E	0.26
BDLS2	WAUBAY 3NE	SD	0.26E	0.26
WSYM8	WEST YELLOWSTONE	MT	0.26E	0.26
WHTS2	WHITE	SD	0.26E	0.26
DYIM8	ZORTMAN 10SW	MT	0.26E	0.26
BTHS2	BATH 1NE	SD	0.25E	0.25
0787N8	BUCHANAN 2S	ND	0.25E	0.25
BGFS2	BUFFALO GAP,CHEYENNE	SD	0.25E	0.25

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BFGS2	BUFFALO GAP,CHEYENNE	SD	0.25E	0.25
BTPS2	BUFFALO TRADING POST	SD	0.25E	0.25
CPRS2	CARPENTER 4NNE	SD	0.25E	0.25
CLAS2	CLARK	SD	0.25	0.25
HAKM8	EKALAKA 28SSE	MT	0.25E	0.25
GAKN8	GARRISON ABV SKUNK	ND	0.25E	0.25
HFDN8	HANNAFORD	ND	0.25E	0.25
3DE	REDFIELD	SD	0.25E	0.25
RHIS2	REE HEIGHTS 6SW	SD	0.25E	0.25
RHGS2	REE HEIGHTS 8S	SD	0.25E	0.25
WKO	ROCKGLENN	SK	0.25E	0.25
WEY	WEST YELLOWSTONE	MT	0.25E	0.25
CKCM8	COOKE CITY 2W	MT	0.24E	0.24
DVL	DEVILS LAKE AIRPORT	ND	0.24	0.24
RASW4	DUBOIS 22SW	WY	0.24E	0.24
SEKS2	ELKTON	SD	0.24E	0.24
IRES2	IRENE	SD	0.24E	0.24
JRDM8	JORDAN 25N	MT	0.24E	0.24
IAB	MCCONNELL AFB	KS	0.24	0.24
OKAS2	OKATON	SD	0.24E	0.24
ORDS2	ORDWAY 1S, ELM R	SD	0.24E	0.24
PIRN1	PIERCE #1	NE	0.24E	0.24
PCPS2	PLATTE 8SW, PLATTE C	SD	0.24E	0.24
POWW4	POWELL RADIO	WY	0.24E	0.24

RNDN1	RANDOLPH 6S	NE	0.24E	0.24
RIMM8	RIMINI 4NE	MT	0.24E	0.24
SIMK1	SIMPSON, SOLOMON R	KS	0.24	0.24
TYLM5	TYLER	MN	0.24E	0.24
VEBS2	VEBLEN 5SE	SD	0.24E	0.24
VDLN1	VERDEL 6SSE	NE	0.24	0.24
VRDN1	VERDEL, NIOBRARA R	NE	0.24E	0.24
WWKN8	WARWICK	ND	0.24E	0.24
KSMC2	BELOIT 8ESE	KS	0.23E	0.23
BOMN8	BOWMAN 3W	ND	0.23E	0.23
BKX	BROOKINGS	SD	0.23E	0.23
CLKS2	CLEAR LAKE	SD	0.23	0.23
DOSS2	DOLAND	SD	0.23E	0.23
ENSM8	ENNIS	MT	0.23E	0.23
GRYS2	GARY 4S	SD	0.23E	0.23
HVNN8	HAVANA	ND	0.23	0.23
HRWM8	HELENA 3N RAW	MT	0.23E	0.23
HWPM8	HELENA WATER PLANT	MT	0.23E	0.23
TIZM8	JEFFERSON CITY	MT	0.23	0.23
LBRM7	LONG BRANCH RES	MO	0.23	0.23
MBG	MOBRIDGE	SD	0.23	0.23
BOUM8	MONTANA DEV CENTER	MT	0.23E	0.23
NEVM7	NEVADA WATER PLANT	MO	0.23	0.23
OFAW4	OLD FAITHFUL	WY	0.23E	0.23
RAYS2	RAYMOND 3NE	SD	0.23E	0.23
SWAN1	SWAN LAKE	NE	0.23E	0.23
AMDN8	AMIDON 12NW	ND	0.22E	0.22
BTLS2	BATESLAND	SD	0.22E	0.22
SCCS2	CHESTER, SKUNK CR	SD	0.22E	0.22

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	FTHS2	FAITH 14NW, MOREAU R	SD	0.22	0.22
	FSTM8	FISHTAIL	MT	0.22E	0.22
	FLAS2	FLANDREAU	SD	0.22E	0.22
	FPRS2	FORT PIERRE 17WSW	SD	0.22E	0.22
	GTNM8	GALLATIN GATEWAY 10S	MT	0.22E	0.22
	HVMM8	HELENA 4NE	MT	0.22E	0.22
	LEWM8	LEWISTOWN 2SW	MT	0.22E	0.22
	LWT	LEWISTOWN AIRPORT	MT	0.22	0.22
	ZUFK1	LIEBENTHAL	KS	0.22E	0.22
	LYNN1	LYNCH	NE	0.22E	0.22
	MIES2	MILLER 10S	SD	0.22E	0.22
	Y26	MOBRIDGE 2NNW	SD	0.22E	0.22
	PRGS2	PINE RIDGE RAW	SD	0.22E	0.22
	PCUS2	PORCUPINE	SD	0.22E	0.22
	ROYS2	ROY LAKE ST PARK	SD	0.22E	0.22
	SGOM8	SHENANGO RAW	MT	0.22	0.22
	VOLS2	VOLGA	SD	0.22E	0.22
	WITS2	WHITE LAKE	SD	0.22	0.22
	WTES2	WHITE LAKE (SDSU)	SD	0.22E	0.22
	ANW	AINSWORTH	NE	0.21E	0.21
	ASHI1	ASHTON	ID	0.21E	0.21
	ATKN1	ATKINSON 3SW	NE	0.21E	0.21

BADS2	BADGER 4NE	SD	0.21E	0.21
BRC52	BRUCE, BIG SIOUX R	SD	0.21	0.21
CSHM8	CASHE CREEK	MT	0.21E	0.21
SWNN1	CHAMBERS 18W	NE	0.21E	0.21
CWDS2	COTTONWOOD 2E	SD	0.21E	0.21
FRES2	FREEMAN	SD	0.21E	0.21
HAVM8	FRESNO DAM	MT	0.21E	0.21
GLCK1	GLASCO	KS	0.21E	0.21
GLAK1	GLASCO, SOLOMON R	KS	0.21E	0.21
HASK1	HAYS 1S	KS	0.21E	0.21
HOES2	HOSMER 9E	SD	0.21E	0.21
HWR52	HOWARD 8SE	SD	0.21E	0.21
LKYW4	LAKE YELLOWSTONE	WY	0.21E	0.21
LCMM8	LEWISTOWN	MT	0.21E	0.21
MCVN8	MCVILLE	ND	0.21E	0.21
NVDM7	NEVADA, MARMATON R	MO	0.21E	0.21
ROCK004	NEWPORT 11S	NE	0.21E	0.21
RRSS2	ROSCO	SD	0.21E	0.21
ROSS2	ROSCOE	SD	0.21	0.21
WEYM8	WEST YELLOWSTONE 9NW	MT	0.21E	0.21
BHRM8	YELLOWTAIL DAM	MT	0.21E	0.21
SQPM8	ALBERTON	MT	0.20	0.20
BSCW4	BASE CAMP, MORAN 9NE	WY	0.20	0.20
BLWW4	BLACKWATER	WY	0.20	0.20
BLOM8	BLOODY DICK	MT	0.20	0.20
BZMM8	BOZEMAN 6W EXP FARM	MT	0.20E	0.20
BZEM8	BOZEMAN STATE UNIV	MT	0.20E	0.20
BRCM8	BRACKETT CREEK	MT	0.20	0.20
BRCW4	BURROUGHS CREEK	WY	0.20	0.20
BTM	BUTTE FAA AIRPORT	MT	0.20	0.20
CLVM8	CALVERT CREEK	MT	0.20	0.20

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ID	DESCRIPTION	STATE	06/13	PERIOD SUM
CBCN1	CENTER, BAZILE CR	NE	0.20E	0.20
UMCM7	COLUMBIA	MO	0.20	0.20
MOBN11	COLUMBIA 1SSE	MO	0.20E	0.20
COXM7	COLUMBIA HINKSON CR	MO	0.20E	0.20
CTTS2	COTTONWOOD, SF BAD R	SD	0.20	0.20
FRMN8	FORMAN 5SSE	ND	0.20E	0.20
FPKS2	FRANKFORT	SD	0.20E	0.20
GLTW4	GILLETTE	WY	0.20E	0.20
HLMM8	HARLEM 20S	MT	0.20E	0.20
LASS2	HARROLD 28S	SD	0.20E	0.20
HIHS2	HIGHMORE 7S	SD	0.20E	0.20
HOWS2	HOWARD	SD	0.20E	0.20
INCW4	INDIAN CREEK	WY	0.20	0.20
KNDW4	KENDALL	WY	0.20	0.20
KSLN8	KENSAL 8NNW, JAMES R	ND	0.20E	0.20
KRW44	KIRWIN	WY	0.20	0.20
MCDM8	LANDUSKY 16SE RAW5	MT	0.20E	0.20
LOPW4	LOOMIS PARK	WY	0.20	0.20
LWTM8	LOWER TWIN	MT	0.20	0.20
MTAM8	MALTA 35S	MT	0.20E	0.20

MERN1	MERRIMAN	NE	0.20E	0.20
MOKI1	MOOSE CREEK	ID	0.20	0.20
NFLW4	NEW FORK LAKE	WY	0.20E	0.20
NRKN8	NEW ROCKFORD	ND	0.20E	0.20
NORN1	NORDEN 6S	NE	0.20E	0.20
ONPM8	ONION PARK	MT	0.20	0.20
CLSW4	PAHASKA, CRECELIUS C	WY	0.20E	0.20
SDMM8	SADDLE MOUNTAIN	MT	0.20	0.20
SHCM8	SHORT CREEK	MT	0.20	0.20
SHFM8	SHOWER FALLS	MT	0.20	0.20
SFSM8	SOUTH FORK SHIELDS	MT	0.20	0.20
CRSW4	SPENCER, CHEYENNE R	WY	0.20	0.20
SYLW4	SYLVAN LAKE	WY	0.20	0.20
TNDM8	TENDERFOOT RAWS	MT	0.20E	0.20
TPEM8	TEPEE CREEK	MT	0.20	0.20
TION8	TIOGA 1E	ND	0.20E	0.20
TIBM8	TIZER BASIN	MT	0.20	0.20
TRPW4	TRIPLE PEAKS	WY	0.20	0.20
TURS2	TURTON	SD	0.20	0.20
WLDN8	WILDROSE 3NW	ND	0.20E	0.20
ABSM8	ABSAROKEE	MT	0.19E	0.19
HTOS2	ASHTON 5E	SD	0.19E	0.19
BPI	BIG PINEY	WY	0.19	0.19
BWNN8	BOWMAN HALEY RES	ND	0.19E	0.19
BWSM8	BOZEMAN 4W AGRIMET	MT	0.19E	0.19
BTKM8	BURNT CREEK RAWS	MT	0.19E	0.19
CROS2	CROCKER 6SW	SD	0.19E	0.19
DDGN1	DODGE	NE	0.19E	0.19
EDMN8	EDMUNDS ARROWWOOD	ND	0.19E	0.19
ELIN1	ELI	NE	0.19E	0.19
LGEM8	HAVRE 31N, LODGE CR	MT	0.19E	0.19
HLBK1	HILLSBORO	KS	0.19	0.19
HYTW4	HOYT PEAK	WY	0.19E	0.19

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IRQS2	IROQUOIS	SD	0.19E	0.19
KNEN8	KEENE 3S	ND	0.19E	0.19
LANS2	LANTRY 4NW RAWS	SD	0.19	0.19
LNXS2	LENNOX	SD	0.19E	0.19
LRGM8	LIVINGSTON AIRPORT	MT	0.19	0.19
LVM	LIVINGSTON AIRPORT	MT	0.19	0.19
P60	N LAKE YELLOWSTONE	WY	0.19	0.19
ONTS2	ORIENT	SD	0.19E	0.19
PIR	PIERRE REGIONAL AP	SD	0.19	0.19
RIDM8	RIDGEWAY 1S	MT	0.19E	0.19
VTNN1	VALENTINE 4SSE	NE	0.19E	0.19
VACM8	VIRGINIA CITY	MT	0.19E	0.19
WFCN8	WATFORD CITY	ND	0.19E	0.19
WTDN8	WATFORD CITY	ND	0.19	0.19
WCYN8	WATFORD CITY 1S	ND	0.19E	0.19
BGRS2	BADGER 2S	SD	0.18E	0.19
BELK1	BELOIT	KS	0.18	0.19
BRAS2	BRANDON	SD	0.18E	0.19

BTTM8	BUTTE 8S	MT	0.18E	0.19
CHUM7	CHULA, MUDDY CR	MO	0.18E	0.19
CNK	CONCORDIA	KS	0.18	0.19
EGNS2	EGAN	SD	0.18E	0.19
GROS2	GROTON	SD	0.18E	0.19
GYSK1	GYPSUM 4S, GYPSUM CR	KS	0.18	0.19
ZEGK1	HAYS	KS	0.18E	0.19
HDFN8	HURDSFIELD 8SW	ND	0.18E	0.19
KMBS2	KIMBALL 11SSE	SD	0.18E	0.19
LAUN1	LAUREL	NE	0.18E	0.19
LENS2	LENNOX 3NE	SD	0.18E	0.19
LLAS2	LEOLA	SD	0.18E	0.19
LOLS2	LEOLA 1E	SD	0.18E	0.19
LEOS2	LEOLA SDSU	SD	0.18	0.19
SLDM8	LIVINGSTON 7NE	MT	0.18E	0.19
MIRS2	MILLER 1NW	SD	0.18E	0.19
MTNM8	MOULTON RESERVOIR	MT	0.18E	0.19
PRCN1	PIERCE 2SE	NE	0.18E	0.19
RRDM8	RED ROCK RAWS	MT	0.18E	0.19
RLIS2	RELIANCE (AMRAD)	SD	0.18E	0.19
RELS2	RELIANCE 4NE	SD	0.18E	0.19
SULM8	SULA 3ENE	MT	0.18E	0.19
TOLS2	TOLSTOY 6N	SD	0.18E	0.19
USTS2	USTA 8WNW	SD	0.18E	0.19
VBLS2	VEBLEN 3NW	SD	0.18E	0.19
WAGS2	WAGNER	SD	0.18E	0.19
WACN8	WATFORD CITY 12E	ND	0.18E	0.19
ALSM8	ALDER 17S	MT	0.17E	0.17
COSM8	COLUMBUS	MT	0.17E	0.17
BCCQ8	CONSUL 1SSW	SK	0.17E	0.17
DUBW4	DUBOIS, WIND R	WY	0.17	0.17
DUPS2	DUPREE	SD	0.17E	0.17
DURK1	DURHAM	KS	0.17E	0.17
DUMK1	DURHAM	KS	0.17E	0.17
FTPS2	FT PIERRE 3S, BAD R	SD	0.17E	0.17

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ID	DESCRIPTION	STATE	06/13 SUM
GBBI1	GIBBONSVILLE	ID	0.17E 0.17
ZEAK1	HAYS 11NE	KS	0.17E 0.17
HOUS2	HOUGHTON 4SE	SD	0.17E 0.17
HUSK1	HUSCHER	KS	0.17E 0.17
KBLS2	KIMBALL	SD	0.17E 0.17
KIMS2	KIMBALL (AMRAD)	SD	0.17E 0.17
LCGK1	LA CYGNE 1W	KS	0.17 0.17
RYLS2	LAKE CITY 3SW	SD	0.17E 0.17
LGPS2	LODGEPOLE 5SW	SD	0.17E 0.17
MARN8	MARION 3S	ND	0.17E 0.17
MML	MARSHALL AIRPORT	MN	0.17E 0.17
MNOS2	MENNO	SD	0.17E 0.17
NRDN8	NEW ROCKFORD, JAMES R	ND	0.17E 0.17
EWK	NEWTON AIRPORT	KS	0.17E 0.17
PIES2	OAHE DAM	SD	0.17E 0.17
HOLT008	PAGE 5WNW	NE	0.17E 0.17

PHMS2	PIERRE	SD	0.17E	0.17
REJ	REDIG	SD	0.17E	0.17
RHTS2	REE HEIGHTS	SD	0.17E	0.17
REHS2	REE HEIGHTS	SD	0.17E	0.17
ZEJK1	VICTORIA	KS	0.17E	0.17
WNRS2	WAUBAY WILDLIFE REF	SD	0.17E	0.17
WSRM8	WHITE SULPHUR SPRNGS	MT	0.17E	0.17
WISM8	WISDOM	MT	0.17E	0.17
SQFM8	WISDOM 12NNE	MT	0.17E	0.17
YOCK1	YOCEMENTO, BIG CR	KS	0.17E	0.17
AURK1	AURORA	KS	0.16E	0.16
AUXM7	AUXVASSE	MO	0.16E	0.16
BWDS2	BOWDLE	SD	0.16E	0.16
BOWS2	BOWDLE	SD	0.16E	0.16
GARF005	BURWELL 20NE	NE	0.16E	0.16
CMNM8	CAMERON	MT	0.16E	0.16
CTAM7	CENTRALIA	MO	0.16	0.16
MOBN19	COLUMBIA 4WSW	MO	0.16E	0.16
CONK1	CONCORDIA 1W	KS	0.16E	0.16
DERS2	DELL RAPIDS 2SW	SD	0.16E	0.16
WYFM4	DUBOIS 10WNW	WY	0.16E	0.16
ECHW4	ECHETA 2NW	WY	0.16E	0.16
ESTS2	ESTELLINE	SD	0.16E	0.16
FAIS2	FAITH	SD	0.16E	0.16
D07	FAITH AIRPORT	SD	0.16	0.16
GLHS2	GLENHAM	SD	0.16E	0.16
GNAM8	GLENTANA 4SW	MT	0.16E	0.16
ZEMK1	HAYS 9WSW	KS	0.16E	0.16
KRMM8	KREMLIN	MT	0.16E	0.16
LKFM5	LAKEFIELD	MN	0.16	0.16
LIVM8	LIVINGSTON 5S	MT	0.16E	0.16
CBAS2	MUD LAKE OUTLET	SD	0.16E	0.16
ONLN1	ONEILL	NE	0.16	0.16
REDS2	REDIG 11NE	SD	0.16E	0.16
RXE	REXBURG AIRPORT	ID	0.16	0.16
SCNK1	SCHOENCHEN 1W	KS	0.16E	0.16
SFHS2	SPEARFISH CREEK	SD	0.16E	0.16

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STATION				PERIOD
ID	DESCRIPTION	STATE	06/13	SUM
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SNZM7	SUMNER 2SW, GRAND R	MO	0.16E	0.16
TWF	TWIN FALLS AIRPORT	ID	0.16E	0.16
PTNW4	UPTON 14ENE	WY	0.16E	0.16
VTN	VALENTINE	NE	0.16	0.16
VLLM7	VALLEY PARK	MO	0.16	0.16
VALS2	VALLEY SPRINGS	SD	0.16E	0.16
VERN8	VERONA	ND	0.16E	0.16
ZEFK1	VICTORIA 7N	KS	0.16E	0.16
WILM8	WILSALL 8ENE	MT	0.16E	0.16
ADAK1	ADA 3ESE, SALT CR	KS	0.15E	0.16
ARWN8	ARROWWOOD LAKE	ND	0.15E	0.16
WHEE001	BARTLETT 9NW	NE	0.15E	0.16
BTWM8	BELLTOWER	MT	0.15E	0.16
BISS2	BISON	SD	0.15E	0.16

RCBM8	BOX ELDER	MT	0.15	0.16
CRNN8	CARRINGTON 4N	ND	0.15E	0.16
DCCS2	CENTRAL CITY	SD	0.15	0.16
CYDM8	CLYDE PARK 1W	MT	0.15E	0.16
COSS2	CORSON, SPLIT ROCK C	SD	0.15	0.16
DSMS2	DE SMET	SD	0.15E	0.16
EGHM8	EAGLEHEAD	MT	0.15E	0.16
ELKW4	ELKHORN RAWS	WY	0.15	0.16
HERM5	HERON LAKE	MN	0.15E	0.16
HOWN1	HOWELLS	NE	0.15E	0.16
ISAS2	ISABEL	SD	0.15	0.16
LEIN8	LEITH 13SW	ND	0.15E	0.16
MENM8	MENARD 3NE	MT	0.15E	0.16
NWPN1	NEWPORT	NE	0.15E	0.16
NBRN1	NIOBRARA 6WSW	NE	0.15E	0.16
OGAS2	OGLALA 1S	SD	0.15E	0.16
IEN	PINE RIDGE	SD	0.15	0.16
PNES2	PINE RIDGE 2SE	SD	0.15E	0.16
PNNS2	PINNACLES RANGER STA	SD	0.15E	0.16
PTTS2	PLATTE (AMRAD)	SD	0.15E	0.16
RHSS2	REE HEIGHTS 5S	SD	0.15E	0.16
SPRS2	SPEARFISH (AMRAD)	SD	0.15E	0.16
SFDS2	STRATFORD, JAMES R	SD	0.15E	0.16
SMNM7	SUMNER 3SW	MO	0.15E	0.16
RANS2	VEBLEN 5W	SD	0.15E	0.16
WHIS2	WHITEHORSE, MOREAU R	SD	0.15E	0.16
WEFN8	WILLISTON EXP FARM	ND	0.15E	0.16
ALBM8	ALBION 1N	MT	0.14E	0.14
BSTN1	BASSETT	NE	0.14E	0.14
CCSW4	CASTLE CREEK SNOTEL	WY	0.14E	0.14
COLS2	COLTON	SD	0.14E	0.14
CNTM8	CONTENT 3SSE	MT	0.14E	0.14
HSGS2	DEADWOOD	SD	0.14E	0.14
EGYN8	EDGELEY 3WNW	ND	0.14E	0.14
ELWK1	ELLSWORTH	KS	0.14E	0.14
ESOK1	ELLSWORTH	KS	0.14	0.14
FCTK1	FACT 3W	KS	0.14	0.14
FENM7	FENTON	MO	0.14E	0.14
GLDS2	GLAD VALLEY 2W	SD	0.14E	0.14

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HMKW4	HAMS FORK	WY	0.14E 0.14
HSNS2	HARRISON 4W	SD	0.14E 0.14
HZTN8	HAZELTON 4NW	ND	0.14E 0.14
HGRM8	HILGER	MT	0.14E 0.14
JACM8	JACKSON	MT	0.14E 0.14
JMEM7	JAMESON (DNR)	MO	0.14 0.14
JDN	JORDAN	MT	0.14 0.14
JORM8	JORDAN	MT	0.14E 0.14
KLOM8	KILO RAWS	MT	0.14E 0.14
NOBM8	KNOBS 4SW	MT	0.14E 0.14
QADW4	MAMMOTH 25WSW	WY	0.14E 0.14
MCGN8	MCGREGOR	ND	0.14E 0.14

MVDM5	MONTEVIDEO	MN	0.14E	0.14
MRAW4	MORAN 5WSW	WY	0.14E	0.14
FOFW4	OLD FAITHFUL	WY	0.14E	0.14
OPMM8	OPHEIM 12SSE	MT	0.14E	0.14
P05	PHILIP 3E	SD	0.14E	0.14
PHP	PHILLIP	SD	0.14	0.14
PIRS2	PIERRE	SD	0.14E	0.14
PLKS2	PLANKINTON	SD	0.14E	0.14
PFSW4	POWELL FIELD STATION	WY	0.14E	0.14
RBDW4	REDBIRD	WY	0.14E	0.14
RSSN8	ROSS	ND	0.14E	0.14
SCRN1	SCRIBNER	NE	0.14E	0.14
SHYN8	SHEYENNE	ND	0.14E	0.14
TAKM7	TARKIO #2	MO	0.14	0.14
TARM7	TARKIO 1SW	MO	0.14E	0.14
VLRW4	VALLEY 9NNE	WY	0.14E	0.14
VERN1	VERDEL, PONCA CR	NE	0.14E	0.14
VRNS2	VERMILLION	SD	0.14E	0.14
SVMS2	VERMILLION STORMNET	SD	0.14E	0.14
SMHM8	WHITE SULPHUR 25NNW	MT	0.14E	0.14
AAO	WICHITA	KS	0.14	0.14
ISN	WILLISTON INTL APT	ND	0.14	0.14
BEKS2	WINFRED 2S	SD	0.14E	0.14
ARMS2	ARMOUR	SD	0.13E	0.13
ASHS2	ASHTON 2SW	SD	0.13E	0.13
DGDM7	BALLWIN	MO	0.13E	0.13
BALM7	BALLWIN	MO	0.13E	0.13
BADK1	BARNARD 7W	KS	0.13E	0.13
WHEE002	BARTLETT 9NE	NE	0.13E	0.13
BZLM8	BOZEMAN 5W	MT	0.13E	0.13
BROS2	BROOKINGS 2NE	SD	0.13E	0.13
CNDS2	CONDE	SD	0.13E	0.13
DEAS2	DEADWOOD	SD	0.13E	0.13
DERM8	DEER LODGE 3W	MT	0.13E	0.13
DBOW4	DUBOIS, WIND R	WY	0.13E	0.13
EDTS2	EDGEMONT 13NW	SD	0.13E	0.13
HATS2	EDGEMONT, HAT CR	SD	0.13	0.13
GLLM7	GALLATIN 1W	MO	0.13E	0.13
GAZM7	GALLATIN, GRAND R	MO	0.13E	0.13
GVYS2	GANN VALLEY 8SW	SD	0.13E	0.13
GLNK1	GLEN ELDER DAM	KS	0.13E	0.13

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GTNS2	GROTON	SD	0.13E	0.13
CFRM8	HELENA 15E	MT	0.13E	0.13
HCKS2	HITCHCOCK	SD	0.13E	0.13
HTTM7	HORTON 2S	MO	0.13E	0.13
HODS2	HOWARD 11WSW	SD	0.13E	0.13
IPSS2	IPSWICH	SD	0.13E	0.13
JMSK1	JAMESTOWN, BUFFALO C	KS	0.13E	0.13
JRNM8	JORDAN 43ENE	MT	0.13E	0.13
KPLK1	KANOPOLIS	KS	0.13E	0.13
KENS2	KENNEBEC	SD	0.13E	0.13

LAYK1	LA CYGNE 4ESE	KS	0.13E	0.13
LWMM8	LEWISTOWN 11ESE	MT	0.13E	0.13
LUVMS	LUVERNE, ROCK R	MN	0.13E	0.13
MRON8	MARION	ND	0.13E	0.13
MJTW4	MORAN 5SW	WY	0.13E	0.13
MTVS2	MT VERNON, FIRESTEEL	SD	0.13	0.13
MROS2	MURDO 7WSW	SD	0.13E	0.13
CHRS2	REDSHIRT, CHEYENNE R	SD	0.13	0.13
RHAN8	RHAME 8S	ND	0.13E	0.13
RUSK1	RUSSELL 5N, SALINE R	KS	0.13	0.13
EROS2	SIOUX FALLS 14NE	SD	0.13E	0.13
SPES2	SPEARFISH	SD	0.13E	0.13
TRIM8	TRIDENT	MT	0.13E	0.13
ZEEK1	VICTORIA 5ENE	KS	0.13E	0.13
WLDM8	WILDROSE 3NW	MT	0.13E	0.13
LMCN8	WILLISTON, LTL MUDDY	ND	0.13E	0.13
WLTN8	WILLISTON, MISSOURI R	ND	0.13E	0.13
WRVM8	WISE RIVER 3WNW	MT	0.13E	0.13
WISN1	WISNER	NE	0.13E	0.13
BHMM8	WYOLA 25WSW	MT	0.13	0.13
ACYS2	ACADEMY 2NE	SD	0.12E	0.13
ASWN1	AINSWORTH	NE	0.12E	0.13
BRNK1	BARNARD, SALT CR	KS	0.12E	0.13
BYDM8	BOYD, RED LODGE CR	MT	0.12E	0.13
CYNM8	CANYON FERRY DAM	MT	0.12E	0.13
CARN8	CARRINGTON	ND	0.12E	0.13
CNKK1	CONCORDIA, REPUB R	KS	0.12	0.13
DPCM8	DEEP CREEK PASS	MT	0.12E	0.13
EABS2	EAGLE BUTTE	SD	0.12E	0.13
RDSC2	EDGEMONT 7NE	SD	0.12E	0.13
FSLM8	FISHTAIL 7W RAWS	MT	0.12E	0.13
FTRN8	FT RANSOM 4NNE	ND	0.12E	0.13
GTTW4	GILLETTE 12S	WY	0.12E	0.13
HYTS2	HAYTI	SD	0.12E	0.13
HLTK1	HOLTON	KS	0.12	0.13
HOMS2	HOSMER 1E	SD	0.12E	0.13
HVNS2	HOVEN	SD	0.12E	0.13
HNTK1	HUNTER	KS	0.12	0.13
HRHS2	HURON (AMRAD)	SD	0.12E	0.13
HURS2	HURON, JAMES R	SD	0.12	0.13
FRBS2	KEYSTONE 18SE	SD	0.12E	0.13
LEAS2	LEAD	SD	0.12E	0.13
LEBI4	LEBANON 4SE	IA	0.12E	0.13

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CEFM8	LIMA 36ENE	MT	0.12E	0.13
LNGM8	LOGAN 2W	MT	0.12E	0.13
JSLN8	LUDDEN 6SW, JAMES R	ND	0.12E	0.13
MRFS2	MADISON 2SE	SD	0.12E	0.13
MOFN8	MOFFIT, LONG LAKE CR	ND	0.12E	0.13
HOLT009	PAGE	NE	0.12E	0.13
NEBS2	PINE RIDGE, WHITE R	SD	0.12E	0.13
SRMS2	RAMONA	SD	0.12E	0.13

RSL	RUSSELL 1E	KS	0.12	0.13
SLNI1	SALMON	ID	0.12E	0.13
SPKW4	SCHOOLHOUSE PARK	WY	0.12	0.13
SRBN1	SCRIBNER, PEBBLE CR	NE	0.12E	0.13
STKS2	STICKNEY	SD	0.12E	0.13
TULS2	TULARE, TURTLE CR	SD	0.12E	0.13
VDGN1	VERDIGRE	NE	0.12E	0.13
WAKN1	WAKEFIELD	NE	0.12	0.13
WRNS2	WARNER	SD	0.12E	0.13
WHHM8	WHITEHALL RAWS	MT	0.12E	0.13
SVWM8	WILSALL 4NNE	MT	0.12E	0.13
WRSM8	WISE RIVER RAWS	MT	0.12E	0.13
AUSM8	AUSTIN 1W	MT	0.11E	0.12
BLNM8	BALLANTINE	MT	0.11E	0.12
BONW4	BONDURANT SCHOOL	WY	0.11E	0.12
BRDM8	BREDETTE	MT	0.11E	0.12
FLDW4	BUFFALO 15W	WY	0.11E	0.12
BUNK1	BUNKER HILL 7SW	KS	0.11E	0.12
CDR	CHADRON	NE	0.11	0.12
WBMN1	CHADRON 3NE	NE	0.11E	0.12
LSKM5	CURRIE	MN	0.11E	0.12
DOOI4	DOON 4ENE	IA	0.11E	0.12
EPPN8	EPPING	ND	0.11E	0.12
BHCM7	EXCELLO 3WSW	MO	0.11E	0.12
GTEW4	GILLETTE 8E	WY	0.11E	0.12
GTHI4	GUTHRIE CENTER	IA	0.11	0.12
HECS2	HECLA	SD	0.11E	0.12
HORM7	HORTON 3NE	MO	0.11E	0.12
HORS2	HURON	SD	0.11E	0.12
JWPM7	JEFF CITY W P	MO	0.11	0.12
0308N8	LEITH 14SW	ND	0.11E	0.12
LWSM8	LEWISTOWN 10S	MT	0.11E	0.12
LNCK1	LINCOLNVILLE	KS	0.11E	0.12
LNSK1	LINDSBORG, SMOKY HILL	KS	0.11E	0.12
LTTW4	LITTLE WARM SPRINGS	WY	0.11E	0.12
MAZM7	MADISON	MO	0.11E	0.12
MADM8	MADISON DAM BLO	MT	0.11E	0.12
MCBM7	MCBAINE, MISSOURI R	MO	0.11E	0.12
MEXM7	MEXICO	MO	0.11E	0.12
KTFM8	MIZPAH 12NE	MT	0.11	0.12
MQM	MONIDA	MT	0.11E	0.12
MOUM7	MOUNDVILLE	MO	0.11E	0.12
DWCM7	NEVADA, DRY WOOD CR	MO	0.11E	0.12
PRMS2	PARMELEE 6W	SD	0.11E	0.12
PINW4	PINEDALE 1NE	WY	0.11E	0.12

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PROS2	PRESHO 7NW	SD	0.11E	0.12
WNSI4	RIVERTON, WEST NISH	IA	0.11	0.12
ROPM8	ROUNDUP	MT	0.11E	0.12
SLVM8	SILVER LAKE	MT	0.11E	0.12
SIXI4	SIOUX CENTER 2SE	IA	0.11E	0.12
TSTM8	TOSTON 5NW AGRIMET	MT	0.11	0.12

TOSM8	TOSTON, MISSOURI R	MT	0.11E	0.12
VNAM7	VIENNA 2WNW	MO	0.11E	0.12
WLTN1	WALTHILL 1E	NE	0.11E	0.12
WHLN1	WALTHILL, S OMAHA CR	NE	0.11E	0.12
MOBN25	WOOLDRIDGE 3ENE	MO	0.11E	0.12
ABRM8	ALBRO LAKE	MT	0.10	0.11
BUCC2	ALMA 4SE	CO	0.10	0.11
ALZM8	ALZADA 1SSE	MT	0.10E	0.11
BRLM8	BARKER LAKES	MT	0.10	0.11
BEAM8	BEAGLE SPRINGS	MT	0.10	0.11
BTNW4	BEAR TRAP MEADOW	WY	0.10	0.11
BLTW4	BEARTOOTH LAKE	WY	0.10	0.11
BFOS2	BELLE FOURCHE 22NNW	SD	0.10E	0.11
BPSC2	BERTHOUD PASS	CO	0.10E	0.11
BTSC2	BERTHOUD SUMMIT	CO	0.10	0.11
BGEW4	BIG GOOSE	WY	0.10	0.11
BSDW4	BONE SPRINGS DIVIDE	WY	0.10	0.11
BOMM8	BOULDER MOUNTAIN	MT	0.10	0.11
SBDW4	BOYSEN DAM	WY	0.10	0.11
BOYW4	BOYSEN RESERVOIR	WY	0.10E	0.11
BRTS2	BRITTON 9NW	SD	0.10E	0.11
BKLW4	BROOKLYN LAKE	WY	0.10	0.11
BRJW4	BURGESS JUNCTION	WY	0.10	0.11
CAWK1	CAWKER CITY	KS	0.10E	0.11
CETS2	CENTERVILLE 4N	SD	0.10E	0.11
CHDN1	CHADRON 3SW	NE	0.10E	0.11
CVDM8	CHINOOK 21SE	MT	0.10E	0.11
CLFK1	CLAFLIN	KS	0.10E	0.11
CCRK1	CLAY CENTER	KS	0.10	0.11
CLAK1	CLAY CENTER #1	KS	0.10E	0.11
CYCK1	CLAY CENTER, REPUB R	KS	0.10E	0.11
CUDM8	CLEVELAND 5ENE	MT	0.10E	0.11
CFTK1	CLIFTON	KS	0.10E	0.11
CPKW4	CLOUD PEAK RESERVOIR	WY	0.10	0.11
CMBM8	COMBINATION	MT	0.10	0.11
DAZM8	DAISY PEAK	MT	0.10	0.11
DPKW4	DEER PARK	WY	0.10	0.11
DRXM7	DREXEL	MO	0.10	0.11
ERDW4	EAST RIM DIVIDE	WY	0.10	0.11
EKPW4	ELKHART PARK	WY	0.10	0.11
EVNW4	EVENING STAR	WY	0.10	0.11
EWGN1	EWING	NE	0.10E	0.11
FTMM8	FLATTOP MOUNTAIN	MT	0.10	0.11
FTNM8	FLATTOP MTN SNT	MT	0.10E	0.11
MTDN1	FLAXVILLE 5E	MT	0.10E	0.11
LGNM8	FORT LOGAN 4ESE	MT	0.10E	0.11
GARS2	GARRETSON	SD	0.10E	0.11

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GLDK1	GLEN ELDER 2SE	KS	0.10E	0.11
GTOM8	GOAT HAUNT MOUNTAIN	MT	0.10E	0.11
GRCW4	GRANITE CREEK	WY	0.10	0.11
GRCM8	GRAVE CREEK	MT	0.10	0.11

KMLS2	GROTON 7NW	SD	0.10E	0.11
0182N8	GUELPH 1NW	ND	0.10E	0.11
HNSW4	HANSEN SAWMILL	WY	0.10	0.11
HRDM5	HARDWICK	MN	0.10E	0.11
HRKM8	HARKNESS RAWS	MT	0.10E	0.11
HERK1	HERINGTON	KS	0.10	0.11
SHIM5	HILLS	MN	0.10E	0.11
HBBW4	HOBBS PARK	WY	0.10	0.11
HORM8	HORSE THIEF RAWS	MT	0.10	0.11
HTNM7	HORTON, LTL OSAGE R	MO	0.10E	0.11
HON	HURON	SD	0.10	0.11
INBS2	INDIAN BUTTE RAWS	SD	0.10E	0.11
JCKM5	JACKSON	MN	0.10E	0.11
KLLW4	KELLEY	WY	0.10	0.11
KDRS2	KIDDER	SD	0.10E	0.11
LVRM8	LAKEVIEW RIDGE	MT	0.10	0.11
LDOM7	LAREDO, MEDICINE CR	MO	0.10	0.11
LEMS2	LEMMON	SD	0.10E	0.11
Y22	LEMMON	SD	0.10E	0.11
LWSW4	LEWIS LAKE DIVIDE	WY	0.10	0.11
LINK1	LINCOLN, SALINE R	KS	0.10	0.11
LSBK1	LINDSBORG	KS	0.10E	0.11
LTWW4	LITTLE WARM SPGS SCS	WY	0.10	0.11
LLFM8	LOGAN 1E	MT	0.10E	0.11
LURK1	LURAY	KS	0.10E	0.11
MOME1	MADISON	MO	0.10E	0.11
MRQW4	MARQUETTE CREEK	WY	0.10	0.11
MDLI1	MEADOW LAKE	ID	0.10	0.11
MTRK1	MENTOR, SMOKY HILL R	KS	0.10E	0.11
MGZM8	MILLEGAN 14SE	MT	0.10E	0.11
MNPK1	MINNEAPOLIS	KS	0.10E	0.11
MPSK1	MINNEAPOLIS, SOLOMON	KS	0.10E	0.11
MNPM8	MONUMENT PEAK	MT	0.10	0.11
MULM8	MULE CREEK	MT	0.10	0.11
NZLN1	NENZEL 23SSW	NE	0.10E	0.11
NZCM8	NEZ PERCE CAMP	MT	0.10	0.11
NFEM8	NORTH FORK ELK CREEK	MT	0.10	0.11
PATM7	PATTONSBURG, GRAND R	MO	0.10E	0.11
PTNM8	PETERSON MEADOWS	MT	0.10	0.11
PHLS2	PHILLIP 1S	SD	0.10E	0.11
HAFW4	PINEDALE	WY	0.10E	0.11
PNDW4	PINEDALE	WY	0.10E	0.11
BRW4	PINEDALE 14SE	WY	0.10E	0.11
PLSM8	POLARIS 4N	MT	0.10E	0.11
PRPM8	PORCUPINE	MT	0.10	0.11
RDPK1	RANDOLPH, FANCY CR	KS	0.10E	0.11
RPJM8	RAPELJE 4S	MT	0.10E	0.11
RCDM7	RICHARDS	MO	0.10E	0.11
RKRI4	ROCK RAPIDS	IA	0.10E	0.11

1NWSRFS FORECAST SYSTEM - PROGRAM PPDUTIL (VERSION: ob8.1

- 03/20/07)

USER=MBRFC

DATE=Jun 13, 2011 - 14:02:16

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STATION				PERIOD
ID	DESCRIPTION	STATE	06/13	SUM
ROCM8	ROCKY BOY	MT	0.10	0.11
RUPM8	ROUNDUP, MUSSELSHELL	MT	0.10E	0.11

RULN1	RULO	NE	0.10E	0.11
RUON1	RULO 2W	NE	0.10	0.11
RUEK1	RUSSELL 7E	KS	0.10E	0.11
RYGM8	RYEGATE 18NNW	MT	0.10	0.11
SCES2	SCENIC 9NE	SD	0.10E	0.11
SCNS2	SCENIC, CHEYENNE R	SD	0.10	0.11
ZECK1	SCHOENCHEN 6WNW	KS	0.10E	0.11
SCOM8	SCOBAY 4NW	MT	0.10E	0.11
FSHS2	SHADEHILL RESERVOIR	SD	0.10	0.11
SHAS2	SHADEHILL RESERVOIR	SD	0.10E	0.11
GRAS2	SHADEHILL, NF GRAND	SD	0.10E	0.11
SNIW4	SNIDER BASIN	WY	0.10	0.11
SLDW4	SOLDIER PARK SNOTEL	WY	0.10E	0.11
SPDM8	SPRINGDALE	MT	0.10E	0.11
SPRM8	SPUR PARK	MT	0.10	0.11
SLAW4	ST LAWRENCE	WY	0.10	0.11
SLWW4	ST LAWRENCE RANG STA	WY	0.10E	0.11
STAM8	STAHL PEAK	MT	0.10	0.11
STCM8	STRINGER CREEK	MT	0.10	0.11
SYRW4	SYLVAN ROAD	WY	0.10	0.11
TEPM8	TEPEE POINT RAWES	MT	0.10E	0.11
THUW4	THUMB DIVIDE	WY	0.10	0.11
TIEW4	TIE CREEK	WY	0.10	0.11
TICW4	TIMBER CREEK	WY	0.10	0.11
TRON8	TROTTERS 3SSE	ND	0.10E	0.11
HAWM8	TROY 34N	MT	0.10	0.11
WAKS2	WAKPALA	SD	0.10E	0.11
WRMM8	WARM SPRINGS	MT	0.10	0.11
WARM8	WARRICK 2NW	MT	0.10E	0.11
WHTM8	WHITE MILL	MT	0.10	0.11
WNDW4	WINDY PEAK	WY	0.10	0.11
ALEN8	ALEXANDER 4NNW	ND	0.09E	0.10
CCAS2	AVON 6SW	SD	0.09E	0.10
BINS2	BISON (AMRAD)	SD	0.09E	0.10
SBRW4	BOYSEN DAM DCP	WY	0.09E	0.10
DSPK1	BURDICK	KS	0.09E	0.10
CHLS2	CHELSEA	SD	0.09E	0.10
CHRW4	CHRISTINA LAKE	WY	0.09E	0.10
DVSS2	DAVIS, VERMILLION R	SD	0.09E	0.10
WBCS2	DEADWOOD 2NE	SD	0.09E	0.10
DFRW4	DOUBLE FOUR RANCH	WY	0.09E	0.10
EGLW4	EAGLE	WY	0.09E	0.10
EAGS2	EAGLE BUTTE (AMRAD)	SD	0.09E	0.10
ENTK1	ENTERPRISE	KS	0.09E	0.10
ETPK1	ENTERPRISE	KS	0.09	0.10
FPKM8	FORT PECK DAM	MT	0.09E	0.10
FCRM8	FRENCH CREEK RAWES	MT	0.09E	0.10
FTLM8	FT LOGAN GDDS	MT	0.09E	0.10
GNVS2	GANN VALLEY	SD	0.09E	0.10
GENK1	GENESE 2N	KS	0.09E	0.10
GBNM8	GIBSON 2NE	MT	0.09E	0.10

1NWSRFS FORECAST SYSTEM - PROGRAM PPDUTIL (VERSION: ob8.1

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STATION				PERIOD
ID	DESCRIPTION	STATE	06/13	SUM
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GILM8	GILDFORD	MT	0.09E	0.10
KIMW4	GILLETTE	WY	0.09E	0.10
GEW4	GILLETTE 11E	WY	0.09E	0.10
HWKM5	HARDWICK 2NW	MN	0.09E	0.10
HIGS2	HIGHMORE 6SSE AMRAD	SD	0.09E	0.10
IDA	IDAHO FALLS	ID	0.09	0.10
JCMM7	JEFFERSON CITY	MO	0.09E	0.10
LKVM8	LAKEVIEW	MT	0.09E	0.10
LARM8	LAURIN 2NE	MT	0.09E	0.10
LGSW4	LITTLE GOOSE SNOTEL	WY	0.09E	0.10
LVGM8	LIVINGSTON 12S	MT	0.09E	0.10
MADM7	MADISON	MO	0.09E	0.10
PCMW4	MAYOWORTH, POWDER R	WY	0.09	0.10
MELM8	MELSTONE	MT	0.09E	0.10
MOSM8	MOSBY 4ENE	MT	0.09E	0.10
NASM8	NASHUA #2	MT	0.09E	0.10
NSHM8	NASHUA, MILK R	MT	0.09E	0.10
FPMM8	NASHUA, MISSOURI R	MT	0.09E	0.10
NTAK1	NATOMA	KS	0.09E	0.10
NEWK1	NORWAY	KS	0.09E	0.10
OELS2	OELRICHS	SD	0.09E	0.10
HHDS2	OELRICHS, HORSEHEAD C	SD	0.09	0.10
OPNM8	OPHEIM 10N	MT	0.09E	0.10
OSBK1	OSBORNE, SOLOMON R	KS	0.09	0.10
PANI4	PANORA	IA	0.09E	0.10
PTTM7	PATTONSBURG 2S	MO	0.09E	0.10
PERK1	PFEIFER	KS	0.09E	0.10
PFRK1	PFEIFER, SMOKY HILL	KS	0.09E	0.10
CHCS2	PLAINVIEW, CHERRY CR	SD	0.09E	0.10
PLNM7	PLEASANT HOPE 2N	MO	0.09	0.10
PNYM8	PONY	MT	0.09E	0.10
RLHN8	RALEIGH, CANNONBALL	ND	0.09E	0.10
ROKI4	RED OAK	IA	0.09	0.10
RDOI4	RED OAK, NISHNABOTNA	IA	0.09E	0.10
RPTM8	REEDPOINT	MT	0.09E	0.10
MOFSA007	RUSH HILL 3S	MO	0.09E	0.10
SCBM8	SCOBEE	MT	0.09E	0.10
SHIN8	SHIELDS	ND	0.09E	0.10
SXGI4	SIOUX CITY	IA	0.09	0.10
TABM8	TABLE MOUNTAIN	MT	0.09E	0.10
AXTM8	VIRGINIA CITY 15SE	MT	0.09E	0.10
WKPS2	WAKPALA	SD	0.09E	0.10
WRVW4	WIND RIVER	WY	0.09E	0.10
WRNM5	WORTHINGTON 2NNE	MN	0.09	0.10
EYPW4	YELLOWSTONE NP EAST	WY	0.09E	0.10
ADAI4	ADAIR 2NNW	IA	0.08E	0.09
ADRM8	ALDER 19S	MT	0.08E	0.09
MSQC2	ALMA 1S	CO	0.08E	0.09
ARDS2	ARDMORE 2N	SD	0.08E	0.09
ATNS2	ASHTON, JAMES R	SD	0.08	0.09
ATHS2	ATHOL, SF SNAKE CR	SD	0.08E	0.09
0545N8	BATTLEVIEW 5SW	ND	0.08E	0.09
MOMS1	BELLE 5SSW	MO	0.08E	0.09

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DATE=Jun 13, 2011 - 14:02:16

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PERIOD

ID	DESCRIPTION	STATE	06/13	SUM
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BGHM8	BIG HORN 4SW GDDS	MT	0.08E	0.09
BURW4	BURGESS JUNCTION	WY	0.08E	0.09
CNNS2	CANTON	SD	0.08E	0.09
CANS2	CANTON, BIG SIOUX R	SD	0.08E	0.09
CAVS2	CAVOUR 10S	SD	0.08E	0.09
CNKM8	CHINOOK	MT	0.08	0.09
PRVM8	CHINOOK 3SE	MT	0.08E	0.09
CLDK1	CLYDE, ELK CR	KS	0.08E	0.09
CODN1	CODY	NE	0.08E	0.09
CTLK1	COURTLAND	KS	0.08	0.09
DELS2	DELL RAPIDS	SD	0.08E	0.09
DLMM8	DELMOE RAWS	MT	0.08E	0.09
DBYM8	DERBY MOUNTAIN RAWS	MT	0.08E	0.09
DINM8	DILLON 9SSE	MT	0.08E	0.09
DODM8	DODSON	MT	0.08E	0.09
DWNK1	DOWNS	KS	0.08E	0.09
3DU	DRUMMOND 2SW	MT	0.08E	0.09
EDNS2	EDEN 6NW	SD	0.08E	0.09
EDMS2	EDGEMONT (AMRAD)	SD	0.08E	0.09
EDGS2	EDGEMONT, CHEYENNE R	SD	0.08E	0.09
ELMM8	ENNIS LAKE	MT	0.08E	0.09
PONS2	ESTELLINE 7W	SD	0.08E	0.09
EWIN1	EWING 1N, ELKHORN R	NE	0.08E	0.09
FAR	FARGO	ND	0.08	0.09
FLTN8	FULLERTON 1ESE	ND	0.08E	0.09
GTTS2	GETTYSBURG	SD	0.08E	0.09
HRTM7	HARTVILLE	MO	0.08	0.09
HSTI4	HOLSTEIN	IA	0.08	0.09
HRNS2	HURON	SD	0.08E	0.09
IONK1	IONIA	KS	0.08E	0.09
IRHW4	IRISH ROCK	WY	0.08E	0.09
ISBS2	ISABEL 14NNE	SD	0.08E	0.09
MAHS2	MAHTO	SD	0.08E	0.09
MNTK1	MANHATTAN 4N	KS	0.08	0.09
MCPK1	MCPHERSON	KS	0.08E	0.09
MEDN8	MEDINA	ND	0.08E	0.09
MDAN8	MEDORA, LTL MISSOURI	ND	0.08E	0.09
MLTK1	MILTONVALE	KS	0.08E	0.09
MIZM8	MIZPAH 4NNW	MT	0.08E	0.09
MSBM8	MOSBY, MUSSEL RI	MT	0.08E	0.09
NCMK1	NEW CAMBRIA 1SE	KS	0.08E	0.09
BCNW4	NEWCASTLE 5E	WY	0.08E	0.09
NWTW4	NEWCASTLE 6SE	WY	0.08E	0.09
OSGW4	OSAGE	WY	0.08E	0.09
NFKW4	PAHASKA, SHOSHONE R	WY	0.08	0.09
PRLK1	PARALLEL	KS	0.08E	0.09
PHIM8	PHILIPSBURG 2S	MT	0.08E	0.09
PWLN8	POWERS LAKE 1N	ND	0.08E	0.09
RLGN8	RALEIGH, CEDAR CR	ND	0.08E	0.09
RDHK1	RANDOLPH 4WNW	KS	0.08E	0.09
RAPI4	ROCK RAPIDS, ROCK R	IA	0.08E	0.09
SBYS2	SELBY	SD	0.08E	0.09
SSHW4	SHOSHONI	WY	0.08E	0.09

1NWSRFS FORECAST SYSTEM - PROGRAM PPDUTIL (VERSION: ob8.1
DATE=Jun 13, 2011 - 14:02:16

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STATION				PERIOD
ID	DESCRIPTION	STATE	06/13	SUM
-----	-----	-----	-----	-----
STAN8	STANLEY 3NNW	ND	0.08E	0.09
GGCM7	VALLEY PARK	MO	0.08E	0.09
WEBM8	WEBSTER 3E	MT	0.08E	0.09
WESW4	WESTON 1E	WY	0.08E	0.09
WPTM8	WOLF POINT 5SE	MT	0.08	0.09
EVES2	ABERDEEN 2E	SD	0.07E	0.08
ABLK1	ABILENE	KS	0.07E	0.08
ANAM8	ANACONDA	MT	0.07E	0.08
ATSK1	ATCHISON 1S	KS	0.07	0.08
ATLI4	ATLANTIC 1NE	IA	0.07	0.08
AVNS2	AVON	SD	0.07E	0.08
BAYI4	BAYARD 6SE	IA	0.07E	0.08
BSYM8	BIG SANDY 4SE	MT	0.07E	0.08
BGTM8	BIG TIMBER	MT	0.07E	0.08
BRNS2	BRITTON	SD	0.07E	0.08
BRIS2	BRITTON	SD	0.07E	0.08
BEVK1	BROOKVILLE	KS	0.07E	0.08
BKVK1	BROOKVILLE	KS	0.07E	0.08
CNGS2	CANNING 1W	SD	0.07E	0.08
CARM8	CARDWELL	MT	0.07E	0.08
CRGN8	CARRINGTON 4N	ND	0.07E	0.08
CSLS2	CASTLEWOOD	SD	0.07E	0.08
CSWS2	CASTLEWOOD,BIG SIOUX	SD	0.07	0.08
CENS2	CENTERVILLE 6SE	SD	0.07E	0.08
CHNM8	COHAGEN	MT	0.07E	0.08
DRBM8	DARBY	MT	0.07E	0.08
DIAK1	DIAMOND SPRINGS	KS	0.07E	0.08
DLN	DILLON AIRPORT	MT	0.07	0.08
DPRS2	DUPREE 15SSE	SD	0.07E	0.08
EGMS2	EDGEMONT 23NNW	SD	0.07E	0.08
EMRN1	EMERSON	NE	0.07E	0.08
COPK15	FAIRPLAY 3WNW	CO	0.07E	0.08
FBKM8	FORT BELKNAP CANAL	MT	0.07E	0.08
GTAK1	GALATIA 4E	KS	0.07E	0.08
GLWM8	GLASGOW 3SE, MILK R	MT	0.07	0.08
GGWM8	GLASGOW WFO	MT	0.07	0.08
GORN1	GORDON 6N	NE	0.07E	0.08
TFX	GREAT FALLS WFO	MT	0.07	0.08
GREN8	GRENORA	ND	0.07E	0.08
HARM8	HARLEM	MT	0.07	0.08
HWSM8	HARLEM 2W	MT	0.07E	0.08
HARM7	HARTVILLE 7NW	MO	0.07E	0.08
ZEDK1	HAYS 15NNE	KS	0.07E	0.08
HERS2	HERMOSA, BATTLE CR	SD	0.07	0.08
SBRM8	HUNTLEY EXP STATION	MT	0.07E	0.08
INWI4	INWOOD	IA	0.07E	0.08
IWDI4	INWOOD	IA	0.07E	0.08
ISMM8	ISMAV	MT	0.07E	0.08
JWLK1	JEWELL	KS	0.07E	0.08
JOLM8	JOLIET	MT	0.07E	0.08
JDWM8	JORDAN 23ENE	MT	0.07E	0.08
KTHN8	KATHRYN	ND	0.07E	0.08

[REDACTED] NWO

From: [REDACTED]
Sent: Monday, June 13, 2011 9:24 AM
To: [REDACTED] NWD; Leigh [REDACTED]
Cc: Farhat, Jody S NWD02
Subject: WM Update - 6-13-11 (UNCLASSIFIED)
Attachments: NWD Missouri Basin Update - 061311.pptx

Classification: UNCLASSIFIED
Caveats: NONE

[REDACTED]
Ray,
Today's Update is attached.

[REDACTED]
Missouri River Basin Water Management Division Northwestern Division Corps of Engineers

[REDACTED]
Roy, R. McAllister@usace.army.mil

Classification: UNCLASSIFIED
Caveats: NONE

Missouri River Basin Stages

13 June 2011



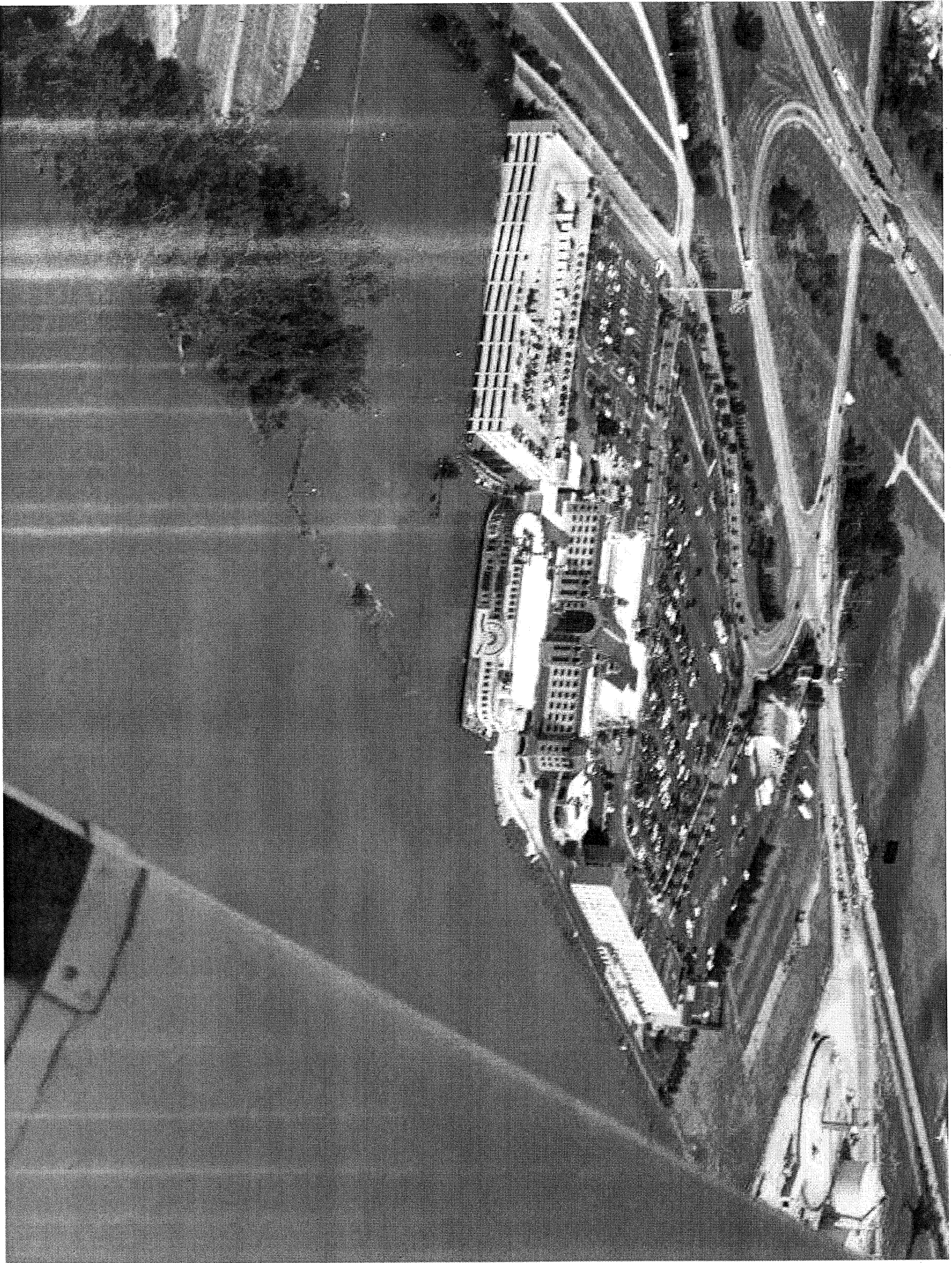
	Station	Flood Stage	Current Stage	Likely Range of Highest* Flows/Stages	Projected Date **	Record Stage (Year)
A	Bismarck	16	17.8	150 kcfs 20.6	June 19	
B	Pierre	13	18.9	150 kcfs 18.7	June 7	
C	Yankton	20	24.7	150 kcfs n/a	June 14	
D	Sioux City	30	33.1	170 kcfs 35	June 15	44.28 (1952)
E	Decatur	35	37.6	175 kcfs 40	June 15	43.5 (1943)
F	Blair	26	31.4	175 kcfs 32	June 15	33.5 (1952)
G	Omaha	29	32.0	175 kcfs 34	June 16	40.2 (1952)
H	Nebraska City	18	24.5	200 kcfs 27	June 16	27.19 (1993)
I	Brownville	33	40.7	205 kcfs 43	June 16	44.3 (1993)
J	Rulo	17	24.6	210 kcfs 25.5	June 17	26.63 (2010)
K	St. Joseph	17	23.3	215 kcfs 27	June 17	32.07 (1993)
L	Atchison	22	26.0	215 kcfs 30	June 17	31.63 (1993)
M	Leavenworth	20	21.8	215 kcfs 27	June 17	35.34 (1993)

Missouri River Basin Stages

13 June 2011



Station	Flood Stage	Current Stage	Likely Range of Highest* Flows/Stages		Projected Date **	Record Stage (Year)
N	32	24.7	220 kcfs 30	350 kcfs 39	June 18	48.87 (1993)
O	22	24.0	220 kcfs 28	350 kcfs 33	June 18	40.6 (1952)
P	17	20.8	220 kcfs 25	350 kcfs 29	June 18	28.86 (2007)
Q	20	23.7	230 kcfs 27	370 kcfs 31	June 18	31.15 (1993)
R	18	22.0	235 kcfs 26	370 kcfs 30	June 19	32.6 (1993)
S	25	25.0	250 kcfs 32	410 kcfs 37	June 19	39.5 (1993)
T	21	22.1	260 kcfs 27	420 kcfs 33	June 19	37.1 (1993)
U	23	21.7	260 kcfs 27	430 kcfs 35	June 19	38.3 (1993)
V	17	18.6	290 kcfs 24	450 kcfs 29	June 19	33.3 (1993)
W	22	24.8	300 kcfs 30	470 kcfs 35	June 19	39.6 (1993)
X	21	22.6	300 kcfs 27	470 kcfs 33	June 20	36.97 (1993)
Y	20	19.1	300 kcfs 23	470 kcfs 32	June 20	35.4 (1993)
Z	25	25.3	300 kcfs 28	470 kcfs 37	June 20	40.04 (1993)



NWO

From: [REDACTED]
Sent: Monday, June 13, 2011 9:15 AM
To: Anderson, G Witt NWD
Cc: Farhat, Jody S NWD02; Blechinger, Erik T NWO
Subject: MG Grisoli Op eds & map (UNCLASSIFIED)

Importance: High

Classification: UNCLASSIFIED
Caveats: NONE

Witt,

MG Grisoli has asked for the following prior to his meeting with Representative Noem this afternoon: 1) Op Eds and 2) a map showing the federal and non-federal levees from Gavins Point down to St. Louis.

Thanks,

[REDACTED]
Deputy Chief (Civil Works)
Northwestern Division
Regional Integration Team (RIT)
U.S. Army Corps of Engineers

[REDACTED]
Washington, D.C. 20314-1000

[REDACTED]
[REDACTED] (mobile)
Lisa.M.Fleming@usace.army.mil

Classification: UNCLASSIFIED
Caveats: NONE

From: [REDACTED]
Sent: Monday, June 13, 2011 9:14 AM
To: Farhat, Jody S NWD02; Hofmann, Anthony J COL NWK; Iverson, Steven K NWK; Penney,
James NWK; [REDACTED]; McMahon, John R BG NWD; Anderson, G Witt NWD;
Blechinger, Erik T NWO; Tipton, Robert A Col NWD; [REDACTED] NWD
Cc: [REDACTED]; [REDACTED]; [REDACTED]; [REDACTED]; [REDACTED]; [REDACTED]
Subject: RE: Deviation Modification for Lower Kansas Projects and Truman (UNCLASSIFIED)

take a week or more for all the overbank storage between Gavins Point and Omaha to fill. Extend that philosophy to the reach from Omaha to Kansas City, and it appears there are several weeks remaining before peak stages from the 150,000 cfs release reach Kansas City.

I strongly encourage Kansas City District to resume evacuation of all tributary storage unless local conditions dictate another strategy.

VR,
Jody

-----Original Message-----

From: [REDACTED]
Sent: Sunday, June 12, 2011 4:12 PM
To: Farhat, Jody S NWD02
Subject: FW: Deviation Modification for Lower Kansas Projects and Truman (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Jody,

The attached is the deviation we approved. Below is what I sent to Eric last Sunday. When I spoke with him last Monday he had indicated that he had spoken with Rex Goodnight and that they had decided to stick with their original plan.

[REDACTED]
[REDACTED]
Reservoir Regulation Team Lead
Missouri River Basin Water Management,
Northwestern Division, USACE
[REDACTED]
[REDACTED]

-----Original Message-----

From: [REDACTED]
Sent: Sunday, June 05, 2011 6:00 PM
To: [REDACTED]
Subject: Deviation Modification for Lower Kansas Projects and Truman (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

[REDACTED]
Just throwing some words out here for you to consider.

Reference attached deviation request from May 29, 2011 - Deviation Request from Missouri River Control Points).

The extreme and historical releases being made from Gavins Point are directly related to the reservoir conditions at the upper mainstem projects. All three upper projects are currently well into their exclusive flood control pools and are expected to remain in those zones, at least until August, and perhaps later. Currently, Fort Peck is in its surcharge zone and Garrison is within inches of being in its surcharge zone.

Given the extreme flooding conditions in the mainstem system, it is necessary that tributary reservoir regulation also be considered in order to maintain proper risk management. Attached is a planning tool, which outlines a likely range of flows of stages with a Gavins Point release of 150 kcfs, that was collaboratively developed by MRBWM, NWO, NWK and the MBRFC (National Weather Service). This planning tool is being used to assist with risk reduction measures along the Missouri River from Gavins Point to the mouth.

<http://www.nwo.usace.army.mil/html/op-e/maps/WaterMgt/Below%20Gavins%20-%20Range%20of%20Flows%20and%20Stages%20-%20Final.pdf>

Kansas City - 220 kcfs to 350 kcfs (30 ft to 39 ft) Waverly - 230 kcfs to 370 kcfs (27 ft to 31 ft) Boonville - 260 kcfs to 420 kcfs (27 ft to 33 ft) Hermann - 300 kcfs to 470 kcfs (27 ft to 33 ft)

Then reference the Corps' FUI stage forecast for the next 2 weeks:

<http://www.nwd-mr.usace.army.mil/rcc/reports/internal/showrep.cgi?3STAG1>

Since the NWS forecast only goes out 5 days, it isn't going to assist with this due to travel time from the projects to each of the Missouri River stations. We could use our FUI forecast or the NWS does produce a monthly forecast every Wednesday. Might be able to get them to produce it Monday and Friday also.

For the next 2 weeks the Missouri River stations, per this morning's FUI:

- ... Kansas City (MKCF) stage forecast does not exceed 28 feet.
- ... Waverly (WVMF) stage forecast does not exceed 26 feet.
- ... Boonville (BNMF) stage forecast does not exceed 24 feet.
- ... Hermann (HEMF) stage forecast does not exceed 23.5 feet.

Since all stations are below their respective lower end of the likely range, then releases from flood control storage zones can be made in such a manner that the total flood control release does not exceed the lower stage level. In this case, it would be Waverly (26 feet to 27 feet) that would be the adjusted control point. Per the latest rating curve, there's about an 18 kcfs difference between 26 and 27 feet at Waverly. Or we could use flows. Doesn't matter - 6 of one, half dozen of the other. However, it seems that the stage is driving factor, not the flow.

How flood control storage releases are made should be based on each project's current level of flood control storage as well as downstream constraints, such as Milford and Tuttle Creek. However, 3 weeks from now, it may be a different project. We'll have to work out how we're going to monitor/adjust through the period ... revisit every few days or after a major precipitation event ... it'll be tricky due to the travel time.

Talk to you at 8:30.

[REDACTED]
[REDACTED]
Reservoir Regulation Team Lead
Missouri River Basin Water Management,
Northwestern Division, USACE
[REDACTED]
[REDACTED] (fax)

Classification: UNCLASSIFIED

Caveats: NONE

[REDACTED] NWO

From: [REDACTED]
Sent: Monday, June 13, 2011 9:08 AM
To: [REDACTED]
[REDACTED]
[REDACTED]
Cc: [REDACTED]
Subject: Farhat, Jody S NWD02; [REDACTED] NWD02; [REDACTED] NWD02; [REDACTED] NWD02
Degradation - Sioux City?? Elsewhere and Aggradation?? (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Missouri River Maintenance Community of Practice;

I have been watching the gages to see if I can see Degradation or Aggradation issues at some of the gage locations.

I received a cal this weekend from Bill Beacom, ex-Towboat Captain from Sioux City (MRRIC and MO RIV Caucus Chairman and expert river witness for towboat accidents) who thought he could see degradation already at Sioux City.

I am not so sure yet. However as river engineers we may want to follow the river gages with degradation and aggradation in mind.

[REDACTED]

Classification: UNCLASSIFIED
Caveats: NONE

[REDACTED] NWO

From: [REDACTED] Gary A SWD@SWG
Sent: Monday, June 13, 2011 9:06 AM
To: Templeton, LeeJay J NWO
Cc: Farhat, Jody S NWD02; [REDACTED] Eric D NWO
Subject: FW: Normal flow rates? (UNCLASSIFIED)

Classification: UNCLASSIFIED

Caveats: NONE

LeeJay
Do you have anything in the Master Plan that addresses "Normal Flow Rates" out of Oahe, even if they change or are some upper and lower norms?

Thanks,

[REDACTED]
ESF#3 TL, DR-1984-SD, Pierre JFO
[REDACTED]

-----Original Message-----

From: Thaxton, Steven [<mailto:Steven.Thaxton@dhs.gov>]
Sent: Monday, June 13, 2011 7:38 AM
To: [REDACTED] Gary A SWD@SWG
Subject: Normal flow rates?

Any luck on finding the "normal" CFS for our system.

Steven Thaxton
FEMA Region VIII Mission Assignments
Phone: (303) 235-4804 BB: (303) 815-8878
Email: steven.thaxton@dhs.gov <<mailto:steven.thaxton@dhs.gov>>

Classification: UNCLASSIFIED

Caveats: NONE

NWO

From: [REDACTED]
Sent: Monday, June 13, 2011 8:58 AM
To: [REDACTED]; Thomas, Kimberly S NWO; Farhat, Jody S NWD02
Subject: RE: Flood Update #88 (UNCLASSIFIED)
Attachments: Missouri River Basin Water Management Situation Report 6-12-11.docx

Classification: UNCLASSIFIED

Caveats: NONE

FYI,
The Missouri River Basin Water Management Situation Report for 6-12-11 states that Garrison is not scheduled to go above 1854. The three week forecast indicates that we'll be well above the elevation...

-----Original Message-----

From: [REDACTED]
Sent: Sunday, June 12, 2011 6:39 PM
To: DLL-CENWO-EOC CMT-ALL
Cc: [REDACTED]; [REDACTED]; [REDACTED]; [REDACTED]; [REDACTED]; [REDACTED]; [REDACTED]; [REDACTED]; [REDACTED]; [REDACTED]
NWO; CENWD-EOC NWD
Subject: Flood Update #88 (UNCLASSIFIED)

Classification: UNCLASSIFIED

Caveats: NONE

****EMERGENCY OPERATIONS****

1. Situation:

24 hour precipitation included scattered thunderstorms across a large portion of the region. Flash flooding was reported across portions of northeast Montana. Some areas reported near 3.00" in just a few hours 14 miles north of Fort Peck. This heavy rain created flash flooding in and around the community of Wolf Point, Mt. Additional heavy pockets of rain around 0.25-0.5" fell across southwestern South Dakota and southwest Nebraska. Widespread heavier rains were reported across much of north central Kansas overnight. This area received on average 0.25-0.5" with isolated pockets of 2".

North Dakota:

Williston, ND - A construction contract was awarded to Les Schlegel Enterprise INC. of Kalispell, MT for \$137,000 on 11 June 2011. The contract is for 3700 tons of rock to improve the access road on the levee toe and also to construct 3 turnouts 20'x40'. Contractor shall begin work tomorrow, 13 June 2011. These operations are not funded under FCCE.

Iowa/Missouri:

Ditch 6, Hamburg, IA - Construction of the Ditch 6 levee raise is underway, roughly 90% complete, work began on 9 Jun 11. Completion date is 17 Jun 11. 11JUN 3,000LF of 4' HESCO Barrier were delivered for tie-in of the levee to I-29.

Blencoe (Monona County), IA - Delivered three-8" pumps today. Provided technical assistance to Monona County on potential flooding to Highway 175, it was reported that the Missouri River flood waters will crest close to the centerline of the road. USACE reported to Iowa EM Duty Officer to notify IDOT to look at raising low areas and to consider necessary road closures.

2. Weather:

2.a. Future Precipitation:

The Day 1 QPF (from 700 hours Sunday to 700 hours Monday):

Confidence is fairly high that moderate to locally heavy precipitation is expected across eastern Montana and western and central North Dakota this afternoon and overnight. The focus for the rainfall will be due to thunderstorms.

Moderate to locally heavy precipitation is expected from far northeastern Kansas, far southwestern Iowa and a large portion of Missouri, although confidence is low with the details. Widely scattered rainfall amounts of near 0.25" are expected across the lower end of the Missouri basin. See attached.

The Day 2 QPF (from 700 hours Monday to 700 hours Tuesday):

Thunderstorms are expected to develop Monday afternoon and evening across southeast Montana, western South Dakota, western Nebraska, and northeastern Wyoming. This is where the heaviest rainfall amounts are expected to occur with some 0.50" amounts possible. See attached.

The Day 3 QPF (from 700 hours Tuesday to 700 hours Wednesday):

An expansive axis of heavy showers and thunderstorms is expected, extending from the Dakotas southeastward all the way into the lower Ohio Valley by late Tuesday through early Wednesday. Moderate to heavy rainfall amounts are expected locally. See attached.

2.b Temperature forecast:

Across northwestern Wyoming, temperatures will warm to near seasonal values Sunday and Monday. Warmer and drier conditions are expected Tuesday. See attached table.

Winds Impacting Fort Peck, Williston, Garrison, and Oahe:

Fort Peck: Winds from the east-southeast will gradually become westerly by this evening and remain fairly light, increasing to 10 to 15 mph Monday afternoon.

Williston: Winds will continue from the southeast and become west Monday morning and increase to 15 mph.

Garrison: Gusty southeast winds will continue and become west by Monday afternoon and increase to 15 to 20 mph.

Pierre: Winds will continue out of the southeast and gusty, becoming light out of the northeast Monday afternoon.

3. Hydro Status:

3.a. River (Flood Stage/Current Stage/Forecast/Date of Peak: Peak Stage)

Montana

- * Yellowstone River at Forsyth/10.0/10.79/cresting/Jun 12: 10.95'
- * Yellowstone River at Miles City/13.0/13.31/cresting/Jun 12: 13.38'
- * Yellowstone River at Glendive/53.5/52.3/cresting/Jun 12: 52.33'
- * Yellowstone River near Sidney/19.0/16.99/rising/June 13: 17.4'

- * Jefferson River near Three Forks/8.0/9.31/cresting/Jun 12: 9.4'
- * Gallatin River near Logan/8.0/8.43/rising/Jun 14: 9.4'
- * Big Hole River near Melrose/6.0/7.11/steady/Jun 14: 7.3'

- * Missouri River near Toston/10.5/11.32/steady/Jun 16: 11.1'
- * Missouri River near Ulm/13.5/15.33/dropping/June 12: 15.48'

- * Missouri River near Wolf Point/13.0/14.4/gage washed out; repair underway
- * Missouri River near Culbertson/19.0/16.6/rising/above current forecast
- * Milk River at Tampico/25.0/27.29/dropping/Jun 10: 27.8'
- * Milk River at Nashua/20.0/28.01/cresting/Jun 9: 29.5'
- * Musselshell River nr Roundup/10.0/11.96/dropping/Jun 12: 12.8'
- * Missouri River near Landusky/25.0/31.83/dropping/Jun 11: 32.35'

Wyoming

- * North Platte River at Saratoga/8.5/9.91/steady/Jun 15: 10.25'
- * North Platte River nr Sinclair/9.0/10.75/steady/Jun 15: 11.1'
- * Laramie River at Laramie/5.0/5.36/steady/Jun 12: 5.3'
- * Laramie River near Fort Laramie/7.0/5.59/steady/Jun 12: 5.6'

North Dakota

- * Missouri River at Williston/22/29.04/rising/Jun 14: 29.9'
- * Missouri River at Bismarck/16.0/17.66/rising/Jun 15: 17.9'
- * James River at Jamestown/12.00/11.53(1,800 cfs)/steady/

South Dakota

- * Missouri River at Pierre/13.0/18.89/steady/
- * Missouri River near Greenwood/30.0/37.75/steady/
- * Missouri River near Gayville/55.0/55.94/rising/

Nebraska

- * North Platte River near Mitchell/7.5/9.38/steady/Jun 12: 9.3'
- * North Platte River at North Platte/6.0/7.53/steady/Jun 12: 7.5'
- * Missouri River at Sioux City/30.0/33.05/rising/Jun 16: 34.4'
- * Missouri River at Decatur/35.0/37.53/rising/Jun 17: 38.3'
- * Missouri River near Blair/26.5/31.19/rising/Jun 17: 31.5'
- * Missouri River at Omaha/29.0/31.62/rising/Jun 17: 32.6'
- * Missouri River at NE City/18.0/24.2/rising/Jun 17: 25.0'
- * Missouri River at Brownville/33.0/40.44/rising/Jun 17: 41.3'
- * Missouri River at Rulo/17.0/24.35/rising/Jun 16: 25.1'

3.b. Reservoirs:

Tributary Reservoirs:

Pipestem Reservoir, (ND) - fell 0.24' to elevation 1484.49 ft-msl. Inflows are near 77 cfs and the release was 500 cfs. 64.5% of the flood pool is occupied.

Jamestown Reservoir, (ND) - fell 0.30' yesterday to elevation 1444.93 ft-msl. Inflows are approximately 200 cfs and releases were 1,300 cfs. The combined Jamestown/Pipestem release is 1,800 cfs. 44.6% of the flood pool is occupied.

Heart Butte, (ND) - Reservoir fell 0.13 ft yesterday with 3.5% of its flood control pool occupied. Pactola (SD) dropped 0.27 ft yesterday with 6.5% of the flood pool occupied. Shadehill (SD) fell 0.10 ft yesterday with 2.8% of the flood pool occupied.

Yellowtail, (MT) - rose 0.93 ft to elevation 3633.72 ft-msl with inflows of 20,200 cfs. The release was 15,353 cfs. 88.6% of its multipurpose pool is occupied.

Tiber, (MT) - rose 1.3 ft to elevation 3000.9 ft-msl. Inflows were 14,485 cfs and releases are 1,456 cfs as the USBR stores water to help reduce inflows to Fort Peck. 37.6% of its flood pool is occupied.

Clark Canyon, (MT) - rose 0.42 ft to elevation 5547.59 ft-msl with inflows of 1,389 cfs and releases of 284 cfs as the USBR stores water to help reduce inflows to Fort Peck. 9.7% of its flood control pool is occupied.

Canyon Ferry, (MT) - rose 1.2 ft to elevation 3787.63 ft-msl with inflows of 31,215 cfs and releases of 11,347 cfs as the USBR stores water to help reduce inflows to Fort Peck. 84.0% of its multipurpose pool is occupied.

Glendo, (WY) - rose 0.14 ft to elevation 4638.20 ft-msl with inflows of 8,252 cfs and releases of 7,359 cfs. 14.8% of its flood control pool is occupied.

Missouri River Mainstem Reservoirs: (Water Management SITREP is attached) Following is a link to the Mainstem regulation forecast. Refresh to obtain the most recent copy if you keep this link open.

<http://www.nwd-mr.usace.army.mil/rcc/reports/twout.html>.

Notes for data below: pool elevation is the midnight value; average inflows and average releases are average daily values; scheduled releases are the release from the project at the end of the day per yesterday's project orders.

Fort Peck Dam (MT)

6/11 Pool Elev: 2251.8 ft-msl

24-hr change: 0.2'

6/11 Ave Inflow: 91,000 cfs

6/11 Ave Release: 60,600 cfs

6/12 Scheduled Release: 65,000 cfs

Garrison Dam (ND)

6/11 Pool Elev: 1853.1 ft-msl

24-hr change: 0.0'

6/11 Ave Inflow: 129,000 cfs

6/11 Ave Release: 135,200 cfs

6/12 Scheduled Release: 135,000 cfs

Oahe Dam (SD)

6/11 Pool Elev: 1618.6 ft-msl

24-hr change: -0.2'

6/11 Ave Inflow: 131,000 cfs

6/11 Ave Release: 150,400 cfs

6/12 Scheduled Release: 150,000 cfs

Big Bend Dam (SD)

6/11 Pool Elev: 1419.6 ft-msl

24-hr change: -0.1'

6/11 Ave Inflow: 146,000 cfs

6/11 Ave Release: 146,900 cfs

6/12 Scheduled Release: 150,000 cfs

Fort Randall Dam (SD)

6/11 Pool Elev: 1362.2 ft-msl

24-hr change: 0.2'
6/11 Ave Inflow: 149,000 cfs
6/11 Ave Release: 137,500 cfs
6/12 Scheduled Release: 140,000 cfs

Gavins Point Dam (NE-SD)
6/11 Pool Elev: 1207.7 ft-msl
24-hr change: -0.1'
6/11 Ave Inflow: 145,000 cfs
6/11 Ave Release: 146,100 cfs
6/12 Scheduled Release: 145,000 cfs

4. Emergency Operations:

4.a.1 Nebraska

North Platte, NE - Airport Levee Raise is at 35% completion with construction complete scheduled for June 14, 2011.

Omaha, (Eppley Airfield), NE - Technical team meet on site to discuss Omaha Levee with OAA. Based on survey of levees the airport authority identified two items for USACE hydraulic input for actions necessary for additional pumping across the levees. The group established a daily 0730 meeting to work through the action plan. The city is constructing new discharge lines over the levees.

South Sioux City, NE - The Corps trained the 185th Nebraska National Guard to perform 24 levee surveillance. The Guard will report back to the County EM Officer. Corps is scheduled to train Dakota City volunteer fire department to perform levee surveillance.

4.a.2 Montana

Roosevelt County, MT - requested Technical Assistance; personnel traveled to Wolf Point and provided technical assistance for their water plant (new not yet operational). The community is doing the work.

Poplar, MT - The work on the temporary levee is substantially completed. The embankment is completed and the only remaining item is to place sand bags along the top of poly on upper slope of levee. The Fort Peck Tribe is performing the work.

Ft. Peck Dam, MT - Twenty-four hour surveillance continues on the dam and the spillway. Project staff, with assistance from Western Area Power Administration will begin installing a temporary overhead line on Monday to restore primary power to the spillway, this should be complete 14 Jun 2011. Backup generators are being used to make gate changes in the interim.

Monitoring will be performed at every wingwall construction joint and at every construction joint for a minimum of 150 feet upslope of the end of the spillway.

Stilling basin erosion has eroded back to the wing walls to unweathered Bear Paw Shale. The unweathered Bear Paw Shale appears to be very tough stuff. A structural engineer is coming on Tuesday to evaluate the lower end of the spillway section. There are no problems noted but we want an additional opinion.

No other Significant Dam Safety Issues.

4.a.3 North Dakota

Williston, ND - Continue to monitor boil areas and seepage areas along entire levee with no significant changes to report. Seepage; Boil activity is increasing in area of sand berm, boils have been relatively small. One boil was ringed because it was moving fines. Additional layer of sand will be placed on the sand berm adjacent to the toe due to perceived soft areas at toe. Boil activity increasing between RW 18-24. Most are flowing clear. One boil was ringed. Current NWS forecast has stage to increase 1.9 ft above record (29.9 ft) by Monday. Preliminary estimate of freeboard at this stage is about 2.5 feet.

Garrison Dam, ND - Spillway repairs performing well under current release. Close surveillance of movement on the crest and upstream slope continues. No other significant dam safety issues to report.

Fort Yates, ND - Standing Rock Sioux Tribe (SRST): First contract is complete.

Second contract is approximately 57% complete. The contractor has begun placing the 5,000 tons of riprap on the north side of the causeway. This work will take up to 14 days. Option 2 work will also take up to 14 days to complete and will begin after the north side is complete.

4.a.4 South Dakota

Pierre/Ft. Pierre, SD - Pierre Levees - Turned levee over to cities on 04 Jun 2011.

Dakota Dunes, SD - Turned levee over to sponsor 11 Jun 2011.

Oahe Dam, SD - No significant dam safety issues.

Big Bend Dam, SD - No significant dam safety issues.

Fort Randall Dam, SD - No significant dams safety issues to report.

Gavins Point Dam, SD - No significant dam safety issues.

4.a.5 Wyoming

NSTR

4.a.6 Iowa/Missouri

Sioux City (Woodbury County), IA - Sioux City water wells. Received request from State of Iowa to provide an access road and ring dike protection to two city water wells for Sioux City, IA. Contract was awarded to Niewohner Construction, Inc. in the amount of \$370,250.00 under Contract Number W9128F-11-C-0041, dated 10 June 2011. 700LF of 4' HESCOs were sent to Sioux City. Construction started 11JUN, 1200 tons of rock for the access road was placed yesterday.

Mills County - Sent a USACE field team today to assess the sustainability/structural integrity of the county's berm construction project due to the anticipated high water event. A few boils were noted, but overall the berms were in good shape.

Harrison County - Delivered three-12" pumps today.

4.a.7 Missouri River Levee Surveillance:

7 Teams in the field today.

General Assessment of Observations: Boils and seepage areas continue to be observed along levees. Animal burrows prevalent on levees. Wet area developing on some berms. Levee work at Hamburg completed, working RWs.

R562 Peru MR RB: Multiple Small Boils, clear flow, very slow faucet. Sponsor did not use granular material berm USACE recommended due to limitation of material.

L601 Watkins Ditch RB: Light to medium seepage area between Pony Creek and Old Platteview bridge. No seepage, but needs to be monitored.

L594-597 (BW-PV-Waubonsie) L594-601: Uncompleted closure structures across LB and RB of Waubonsie Creek. Vegetation and access issues.

L550 MR LB: Two medium boils, trickling clear water, have previously moved material and is located one mile upstream of Nishnabotna tie off on Nishnabotna River. Eleven significant boils near Nishnabotna tie off, ringed by sponsor and a number of pin boils adjacent in field. This area will be monitored. Sloughing occurring around flowing relief wells. About 3 inch movement with 50 foot length, will recommend to sponsor same repair as area south's previous repair. Plastic placed to protect recently raised levee at multiple locations on LB.

Sponsor Surveillance: Sponsor surveillance activities varies from minimal to robust.

4.b Equipment:

Sandbags

Issued: 14,251,000

On Hand: 4,803,500

Projected: 6,500,000

HESCO 3'

Issued: 8,200 LF

On Hand: 855 LF

Projected: 14,000 LF

HESCO 4'

Issued: 43,070 LF

On Hand: 22,580 LF

Projected: 25,000 LF

Poly Rolls

Issued: 2,596 rolls

On Hand: 2,104 rolls

Projected: 1,500 rolls

Pumps

Issued: 33

On Hand: 19

Projected: 30

Additional Supplies due in:

Pumps: Undergoing maintenance checks now (MPRO tech).

SWL Pumps: Locating 4-5 pumps; coordinating trans.

Sling Bags: 300 - 2,000 lb heavy bags with slings on-hand.

4.c Funding:

* Total Code 200 Funding received to date for this event: \$47,662,425

- * Total Code 200 Funding waiting to be received for this event: \$0
- * Total Code 200 Funding revoked to date for this event: \$2,834,000
- * Class 219 - Emergency Operations - Direct Assistance - \$250,000 - WAD and FAD received 3/14/2011
- * Class 219 - Emergency Operations - Direct Assistance - \$3.825M - WAD received 03/15/11. FAD received 03/16/11.
- * Class 219 - Additional Funds Request on 24 March - \$231,425 - WAD and FAD received 03/24/11.
- * Class 219 - Emergency Operations - Direct Assistance - \$2.5M revoked - 4/13/11
- * Class 219 - Emergency Operations - Direct Assistance - \$100k revoked - 4/22/11
- * Class 210 - Response Operations - Alabama Tornadoes - \$56k - MIPR - 4/30/11 - received \$45k on 4/30/11
- * Class 210 - Response Operations - Alabama Tornadoes - \$25k - Request and received for EOC Operations and deployments on 4/30/11
- * Class 210 - Response Operations - Alabama Tornadoes - \$14k revoked - 05/02/2011
- * Class 210 - Response Operations - Alabama Tornadoes - \$10k revoked - 05/03/2011
- * Class 200 - Emergency Operations - Response Operations - \$500,000 - WAD and FAD received on 05/25/11
- * Class 200 - Emergency Operations - Response Operations - \$750,000 - WAD and FAD received on 05/26/11
- * Class 200 - Emergency Operations - Response Operations - \$5,000,000 - FAD received 05/27/11
- * Class 200 - Emergency Operations - Response Operations - \$10,000,000 - FAD received 05/27/11
- * Class 200 - Emergency Operations - Response Operations - \$3,000,000 - request sent 05/27/11 - WAD received for \$2M received on 05/31/11 - verbal received on 06/04/11 for \$1M
- * Class 200 - Emergency Operations - Response Operations - \$10,000,000 - request sent 05/28/11 - WAD received on received 05/28/11
- * Class 200 - Emergency Operations - Response Operations - \$3,000,000 - request sent 05/31/11 - WAD received 06/01/11
- * Class 200 - Emergency Operations - Response Operations - \$6,500,000 - request sent 06/01/11 - WAD for \$3M received 06/02/011 - verbal received on 06/04/11 for \$3.5M
- * Class 200 - Emergency Operations - Response Operations - \$1,500,000 - request sent 06/03/11 - verbal received 06/03/11
- * Class 200 - Emergency Operations - Response Operations - \$1,000,000 - request sent 06/03/11 - verbal received 06/03/11 - WAD received 06/06/11
- * Class 200 - Emergency Operations - Response Operations - \$500,000 - request sent 06/04/11 - verbal received 06/04/11
- * Class 200 - Emergency Operations - Response Operations - \$2,000,000 - request sent 06/05/11 - verbal received 06/05/11
- * Class 200 - Emergency Operations - Response Operations - \$400,000 - request sent 06/06/11 - verbal received 06/07/11
- * Class 200 - Emergency Operations - Response Operations - \$50,000 - received 06/08/11
- * Class 200 - Emergency Operations - Response Operations - \$980,000 - request sent 06/08/11 - WAD received 06/09/11
- * Class 200 - Emergency Operations - Response Operations - \$750,000 - request sent 06/09/11 - WAD received 06/10/11
- * Class 21M - Emergency Operations - Response Operations - \$210k revoke request sent 06/10/11
- * Total Code 500 Funding received to date: \$827,904
- * Class 520 Funding - Advance Measures - Technical assistance - \$100K. WAD and FAD received on 3/2/11.
- * Class 52A Additional Request for Funding - Advance Measures - Technical assistance - \$100K. WAD and FAD received on 3/10/11.
- * Class 520 Additional Request for Funding - Advance Measures - Technical assistance - \$101,640. WAD and FAD received on 3/24/11.

- * Class 519 Funding - Advance Measures - Direct Assistance - \$376,264. WAD and FAD received on 3/28/11.
- * Class 520 Funding - Advance Measures - Technical assistance - \$110k - FAD received on 05/12/11.
- * Class 510 Funding - Advance Measures - Direct assistance - \$40k - FAD received on 05/26/11

Daily Labor Burn Rate: \$137,500
Daily Contract Burn Rate: \$280,000
Combined Daily Burn Rate: \$417,500

4.d Number of Personnel Supporting EOC Operations:
Working in field: 52
Working in District: 50
Outside District: 1

5.a EOC Activation - Level IV - 24 hour Activation (Shifts: 0700-1930)

[REDACTED]
Natural Disaster Program Manager, Readiness Branch U.S. Army Corps of Engineers, Omaha District

[REDACTED] (Attn: CENWO-OD-E) Omaha, NE 68102-9000

[REDACTED] Phone: (402) 995-2446

[REDACTED] Cell: (402) 498-1834

[REDACTED] Fax: (402) 995-2450

[REDACTED] [REDACTED]@usace.army.mil

Classification: UNCLASSIFIED
Caveats: NONE

Classification: UNCLASSIFIED
Caveats: NONE

Missouri River Basin Water Management Situation Report – 6-12-11

Reservoir Conditions

The upper three reservoirs of the Missouri River Mainstem Reservoir System provide the bulk of the storage of water. All three are in their exclusive flood control zones, with Fort Peck passing its spillway crest (continuing up on raised spillway gates) and the other two being near their spillway crests. Table 1 summarizes the situation as of 0000 hours this morning. Relatively high inflows continue to occur into Fort Peck Reservoir from primarily rains earlier in the week. More details on the reservoirs can be found on the daily bulletin prepared by the Missouri River Basin Water Management Division at: <http://www.nwd-mr.usace.army.mil/rcc/reports/showrep.cgi?4BULL0MR1>.

Table 1. Key Reservoir Data (through 0000 hrs 6/12/11)

Reservoir	Inflow kcfs	Outflow kcfs	Top of Spillway Gates feet msl	Current Level feet msl	24-hr Change feet
Fort Peck	91.0	60.6	2250	2251.8	0.2
Garrison	129.0	135.2	1854	1853.1	0.0
Oahe	131.0	150.4	1620	1618.6	-0.2
Big Bend	146.0	146.9	1423	1419.6	-0.1
Fort Randall	149.0	137.5	1375	1362.2	0.2
Gavins Point	145.0	146.1	1210	1207.7	-0.1

Based on the current level data on the upper three reservoirs, the amount of remaining storage has been changing in its distribution among the upper three, larger reservoirs. Fort Peck has become more negative as water is stored higher on the raised spillway gates (surcharged above exclusive flood control). Also, less of the exclusive flood control storage is being used at Garrison and Oahe. The lower three reservoirs have much less capability to store the inflows that are coming into the Missouri River Mainstem Reservoir System, with Fort Randall Reservoir having the greater amount. As of today, the stored water has not yet entered the exclusive flood control zones of the three smaller reservoirs; therefore, 100 percent of their exclusive flood control storage remains available. Table 2 summarizes the storage volumes of all six System reservoirs, with the last column listing the amount of exclusive flood control storage that remains as of today. Spillways are now being used at five of the six reservoirs, with no plans to use the Oahe spillway at this time. Because the spillway gates are open at Fort Peck and the reservoir is now being surcharged over the top of the exclusive flood control zone, the percent of exclusive has become negative. A positive number must always appear for Oahe as long as the spillway gates remain closed at that project. There are no plans at this time to go above 1854, the top of exclusive, at Garrison even though all 28 spillway gates are open.

Table 2. Reservoir Storage Data (through 0000 hrs 6/12/11)

Reservoir	Current	Total	Remaining	Exclusive	% Excl Left
	kAF	kAF	kAF	kAF	
Fort Peck	18,896	18,463	-433	971	-45
Garrison	23,460	23,821	361	1,489	24
Oahe	22,623	23,137	514	1,102	47
Big Bend	1,605	1,798	193	60	100
Fort Randall	4,172	5,418	1,246	985	100
Gavins Point	385	450	65	57	100

Releases from all six reservoirs are currently exceeding records prior to 2011. Table 3 provides release data for all six reservoirs to provide some perspective on the changes that will be happening over the next 2 weeks. Note that the release from Fort Peck has been increased to 65 kcfs today and will be held at that level for at least the next week before it is returned to 60 kcfs. Other than that, the releases 1 week out will be at the currently anticipated maximum releases at the other five reservoirs. A full listing of the data through mid-July is available at: <http://www.nwd-mr.usace.army.mil/rcc/reports/twout.html>.

Table 3. Reservoir Release Comparisons (through 0000 hours 6/12/11)

Reservoir	Yesterday	Forecast	7 days out	14 days out	Pre-2011
	kcfs	Today	19 June	26 June	Record
	kcfs	kcfs	kcfs	kcfs	kcfs
Fort Peck	60.6	65.0	65	60	35
Garrison	135.2	135.0	150	150	65
Oahe	150.4	150.0	150	150	59
Big Bend	146.9	150.0	150	150	74
Fort Randall	137.5	140.0	148	148	67
Gavins Point	146.1	145.0	150	150	70

River Conditions

Levees have been or are currently being constructed by the Corps in six cities from Bismarck/Mandan, ND to South Sioux City, NE, resulting primarily from the releases from Garrison, Oahe, and Gavins Point Dams. Many communities along the lower Missouri River are currently experiencing Missouri River flows that are above flood stage by several feet. The flood stages currently being experienced will be exceeded as Missouri River Mainstem Reservoir System releases increase over the next few weeks to pass the anticipated inflows from mountain snowpack runoff and heavy rains in the Missouri River basin. Table 4 summarizes the current conditions as of 0600 hours this morning and the Corps' current forecast for crest stages. Note that the stage at Pierre is currently just above the forecasted crest elevation for the current upstream release of 150 kcfs.

Table 4. Missouri River Stage Data for 6/12/11 at 0600 CDT

Location	Flood Stage	Current Stage	Forecast Crest Stage	Date of Crest Stage
Bismarck, ND	16	17.6	20-21	mid-Jun
Pierre, SD	13	18.9	18.7	mid-Jun
Sioux City, IA	30	33.1	35-37	mid-Jun thru July
Decatur, NE	35	37.5	40-42	mid-Jun thru July
Omaha, NE	29	31.5	34-36	mid-Jun thru July
Nebraska City, NE	18	24.2	27-28+	mid-Jun thru July
St. Joseph, MO	17	22.9	27-32	mid-Jun thru July
Kansas City, MO	32	24.9	30-39	mid-Jun thru July
Waverly, MO	20	24.1	27-31	mid-Jun thru July
Boonville, MO	21	22.9	27-33	mid-Jun thru July
Hermann, MO	21	22.9	27-33	mid-Jun thru July

Figures 1 and 2 present the plots of the 0600 hour stages at Bismarck and Pierre, respectively. The stages at Bismarck have not reached the initial estimated levels as the Garrison Reservoir releases have increased. The reduction is likely due to the scouring of the channel as the flows are well above the levels in recent years. The stages at Pierre have closely followed the estimated levels, being just slightly over the initial estimate for crest elevation, as the upstream Oahe Reservoir releases have reached the 150-kcfs level. The stages at both cities are still 3 to 4 feet below the constructed levee crests.

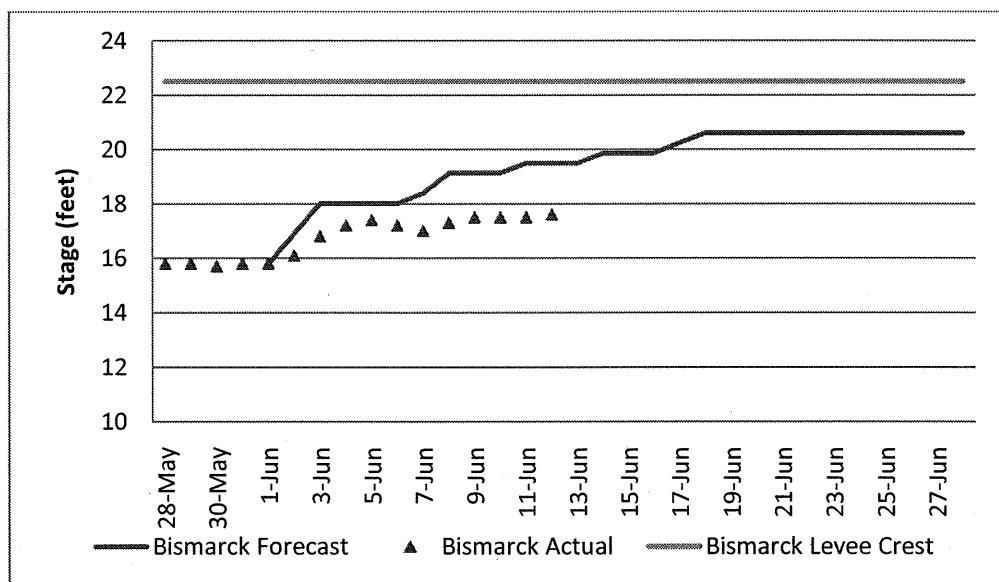


Figure 1. Missouri River stages at Bismarck, North Dakota.

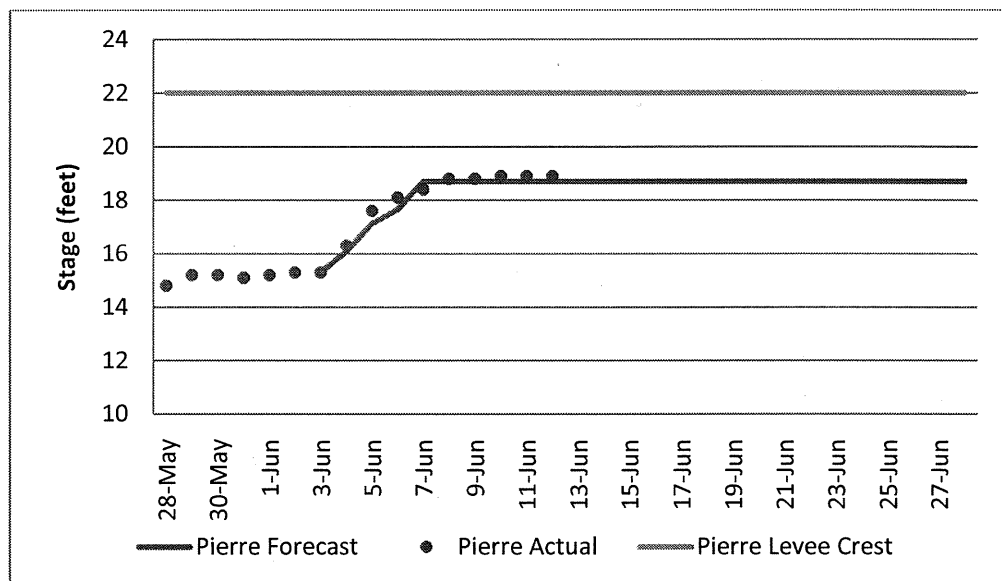


Figure 2. Missouri River stages at Pierre, South Dakota.

Information on Current Mountain Snowpack and Forecasted Rainfall

Releases from the System reservoirs are based on snowpack and rainfall forecasts in the Missouri River basin. An updated snowfall forecast has not yet been prepared today; however, the Hydrologic Prediction Center (HPC) of NOAA prepares a rainfall forecast daily for up to the next 5 days, with an accumulated figure also presented on its website. The next 5 days do not look good as widespread rain is forecasted for much of the Missouri River Basin, including heavier rainfall in North Dakota, South Dakota, and in a large area of the lower basin. Figure 3 is the accumulated 5-day rainfall forecast for today by HPC, and Figure 4 is Friday's mountain snowpack update by the Corps.

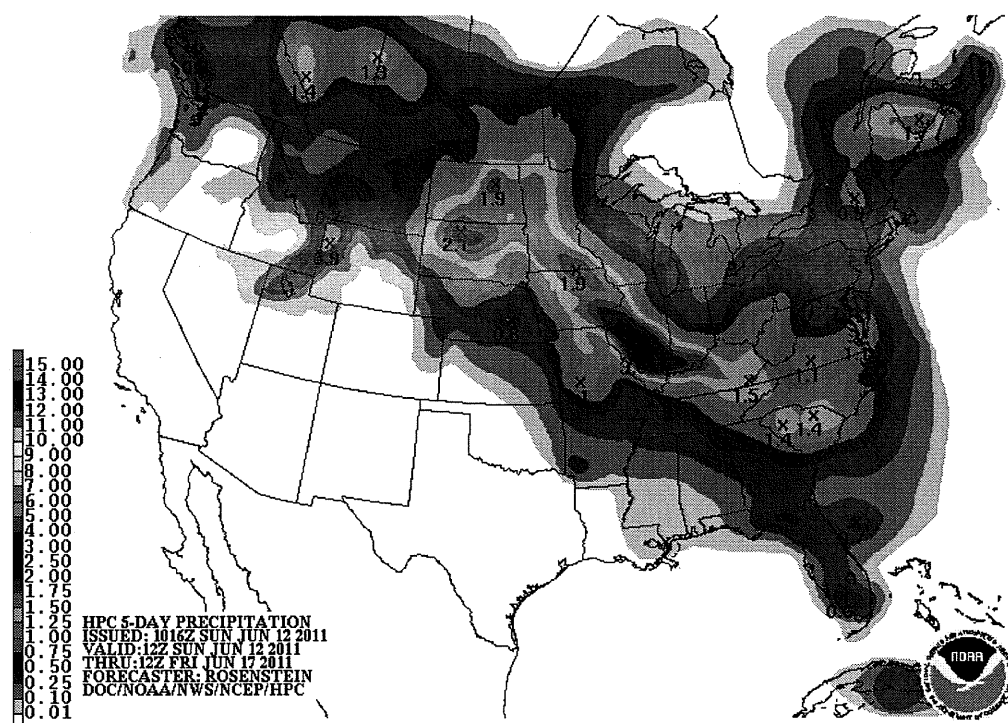


Figure 3. 5-day total QPF ending 0700 Friday, June 17, 2011.

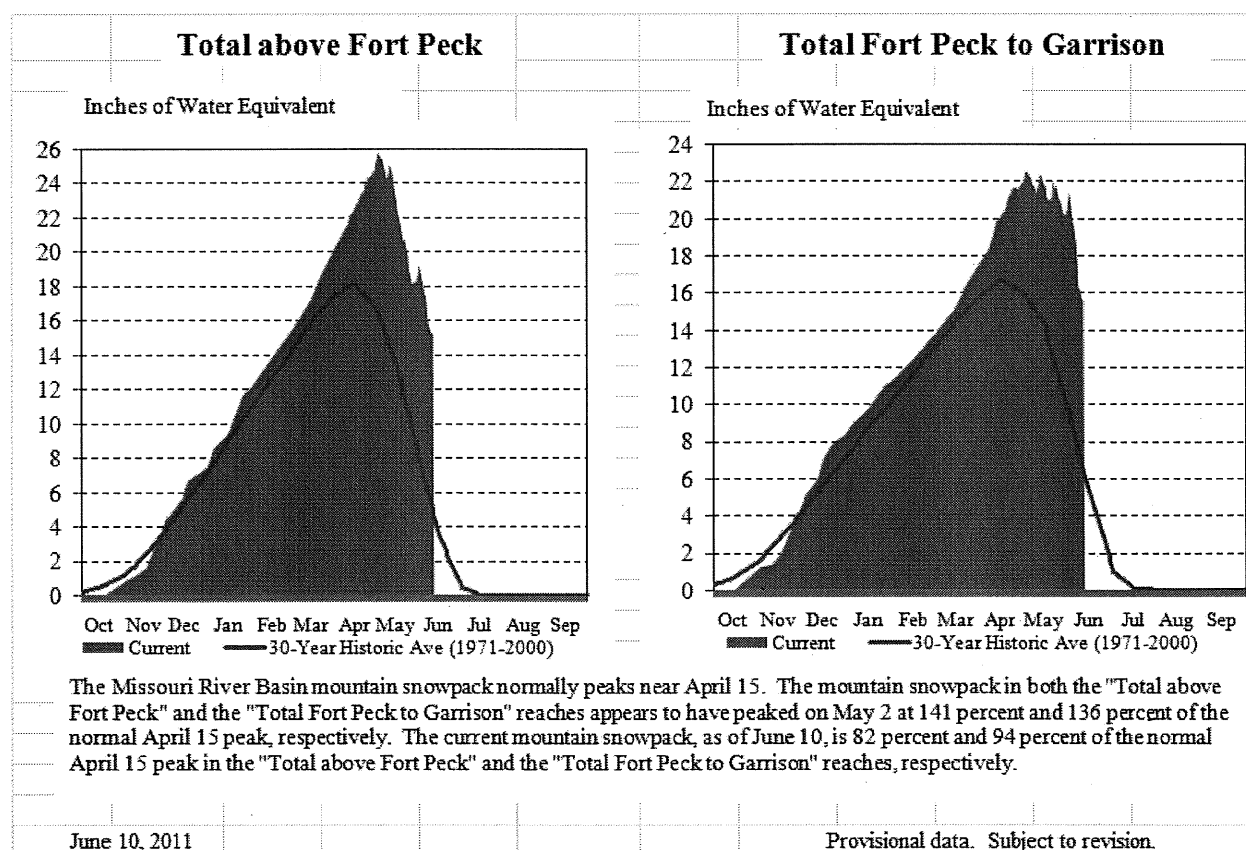


Figure 4. Missouri River basin mountain snowpack water content summary, 2010-2011 – June 10, 2011.

Current Actions and Notable Information

Levee construction for six cities is basically completed to prepare for the high flows on the Missouri River that will result from the increased releases from the Missouri River Mainstem System reservoirs. The Omaha District has been working with the cities of Bismarck/Mandan, ND, Pierre/Ft. Pierre, SD, Dakota Dunes, SD, and South Sioux City, NE to construct levees to limit flood impacts to those cities. Floodplain evacuations have been ongoing for many lower-lying areas along the lower Missouri River. A levee is also currently being constructed to protect Hamburg should the L-575 levee fail. Issues have surfaced on the capability of this levee to make it through the flood due to three slump failures in the past week at river stages that have not yet exceeded those experienced in the high flows of 2010.

Figure 5 is a plot showing the nearest gage 0600 stages for 2010 and 2011 (through today), both years with high river stages at Nebraska City. This figure shows that the river level began to rise a little yesterday after it had been relatively static for the previous 14 days at a level just under the maximum that occurred in 2010. The forecasts for river stages at Nebraska City for the next week have been revised down slightly to show a rise to 25.1 feet by next Friday, June 17.

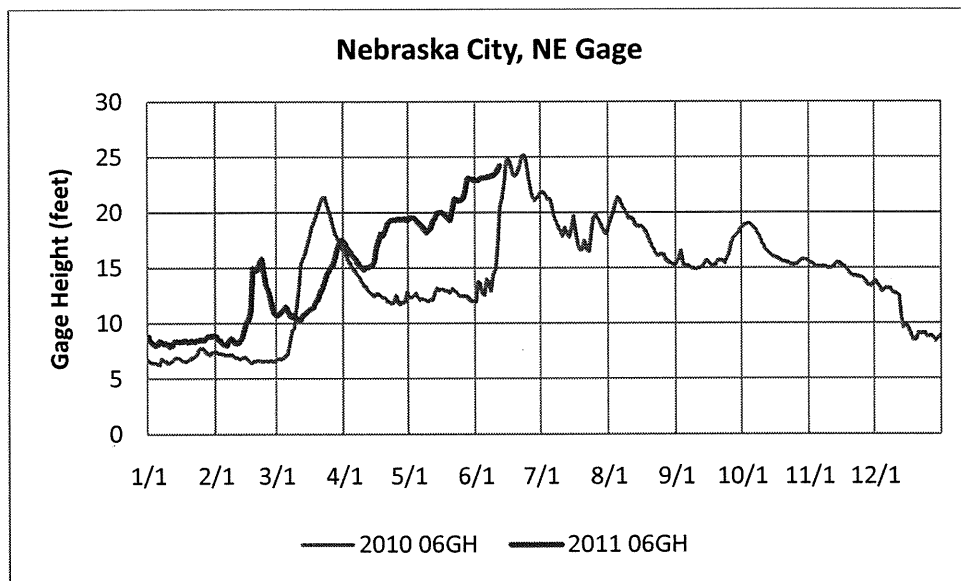


Figure 5. River stages at Nebraska City, Nebraska for 2010 and 2011.

Floodplain inundation maps have been posted by the Omaha District to identify the areas of potential flooding for the emergency managers and the public. The Kansas City District's floodplain inundation maps are now available on its Flood Response Information website. Overtopping of levees information is also available from both districts.

Spotty cells of heavy rains occurred throughout the basin yesterday and over night, with generally light rainfall over a major part of the basin. Figure 6 shows the amount of rain that fell yesterday in the basin and surrounding area of the Central Region of the United States.

NWS Central Region: Current 1-Day Observed Precipitation
Valid at 6/12/2011 1200 UTC- Created 6/12/11 15:48 UTC



Figure 6. Rainfall on the Central Region of the United States for June 11, 2011.

NWO

From: [REDACTED]
Sent: Monday, June 13, 2011 8:43 AM
To: DLL-CENWD-PDR; [REDACTED]
Subject: FW: Preliminary Morning Weather Briefing, Jun 13. Will update by Noon.
Attachments: LSR Jun 12-13.xlsx; QPF day 3.gif; QPF day 2.gif; QPF day 1.gif; 24 hr rainfall.jpg

-----Original Message-----

From: Rebecca.Kern@noaa.gov [mailto:Rebecca.Kern@noaa.gov]
Sent: Monday, June 13, 2011 8:41 AM
To: [REDACTED]
Cc: [REDACTED]
Subject: Preliminary Morning Weather Briefing, Jun 13. Will update by Noon.

You will find the local rainfall/flooding reports in the attached excell spreadsheet.

Preliminary Morning Weather Briefing, Jun 13. Will update by Noon.

Over the past 24 hours,
Moderate to heavy rain occurred over portion of west central North Dakota. Some of the heaviest amounts ranged from 2-3.5". There was some hail contamination so we have not been able to verify what the radar estimated at 8" amounts. Verified amounts remain under 3.5" in the heaviest axis. See attached.

Moderate rain also fell across south central South Dakota. Reports this morning only show near an inch of widespread rainfall. Hail contamination was likely an issue in the graphic this morning.

The Day 1 QPF (from 700 hours Monday to 700 hours Tuesday):

Rich Gulf of Mexico moisture remains over the central and northern plains this period. Confidence in the axis of heavy QPF over portions of southwest Iowa and northern Missouri remains low. Areal average of 0.25-0.50" seems reasonable. Moderate to isolated heavy precipitation is possible over eastern MT, ne WY, and the western Dakotas late tonight. See attached.

The Day 2 QPF (from 700 hours Tuesday to 700 hours Wednesday):

An extensive area of thunderstorms, stretching from the Dakotas southeast down into the mid Mississippi valley is expected during the period. The heaviest rains will likely be over the Midwest Tuesday night/early Wednesday with locally heavy rains across the northern plains.

See attached.

The Day 3 QPF (from 700 hours Thursday to 700 hours Friday):

This period looks to remain fairly quiet across the basin.

OF INTEREST, there is very good model agreement that we can expect heavy rains across ND late this week and into the weekend.

See attached.

Temperature outlook of note:

Snow melt toward late in the week into the weekend will be delayed as an upper trough digs into the Rockies keeping temperatures fairly cool.

Will resend later with attached temperature table.

Becky

Local Storm Reports (timestamps are UTC)

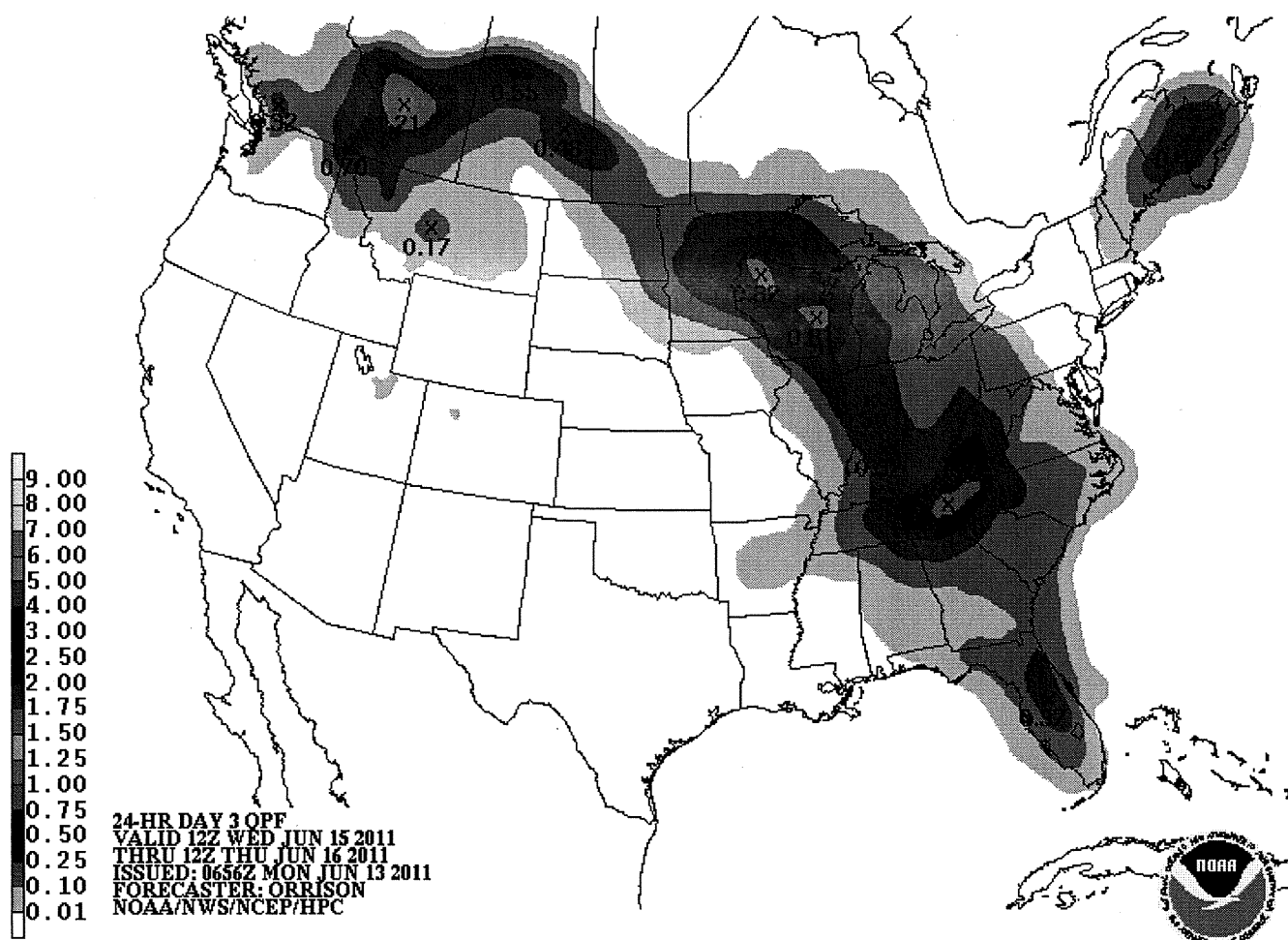
Office	Report Time	County	Location	ST	Event Type	Mag.	Source	Remark
BIS	Mon Jun 13 02:00:00 CDT 2011	Bowman	7 W Bowman	ND	FLASH FLOOD	0	emergency mngr	up to one foot of water flowing over some township roads west of bowman. 2.8 inches storm total rainfall.
BIS	Mon Jun 13 02:05:00 CDT 2011	Morton	5 N Glen Ullin	ND	FLASH FLOOD	0	emergency mngr	1 foot of water over west and east bound lanes of interstate 94 mile marker 106... related 3 car accident with heavy rain and hail.
BIS	Mon Jun 13 02:15:00 CDT 2011	Morton	4 Se Hebron	ND	FLASH FLOOD	0	emergency mngr	interstate 94 underpass at mile marker 103 near exit 102... relayed from state radio...
GGW	Mon Jun 13 03:05:00 CDT 2011	Daniels	10 Ne Bredette	MT	FLOOD	0	trained spotter	smoke creek is running high and is out of its banks in places. not flooding his pasture.
BIS	Mon Jun 13 07:40:00 CDT 2011	Morton	5 N Judson	ND	FLOOD	0	county official	sweet briar creek at county road 84 is out of its banks.
BIS	Mon Jun 13 01:06:00 CDT 2011	Slope	10 W New England	ND	HEAVY RAIN	0.5	co-op observer	0.5 inches in less than 10 minutes...
BIS	Mon Jun 13 01:49:00 CDT 2011	Hettinger	New England	ND	HEAVY RAIN	1	co-op observer	1.0 inch of rain in 55 mins...
BIS	Mon Jun 13 02:33:00 CDT 2011	Morton	Glen Ullin	ND	HEAVY RAIN	2.33	public	2.33 inches since 725 pm cdt...
GGW	Mon Jun 13 03:05:00 CDT 2011	Daniels	10 Ne Bredette	MT	HEAVY RAIN	1.1	trained spotter	rainfall since last night.
BIS	Mon Jun 13 03:37:00 CDT 2011	Oliver	1 W Hannover	ND	HEAVY RAIN	1.9	trained spotter	1.90 inches in past hour...
BIS	Mon Jun 13 03:45:00 CDT 2011	Morton	Mandan	ND	HEAVY RAIN	1.1	trained spotter	1.10 inches in 25 minutes
BIS	Mon Jun 13 07:00:00 CDT 2011	Oliver	Center	ND	HEAVY RAIN	3.57	mesonet	
BIS	Mon Jun 13 02:33:00 CDT 2011	Morton	Glen Ullin	ND	HEAVY RAIN	2.3	public	2.33 inches since 725 pm cdt...

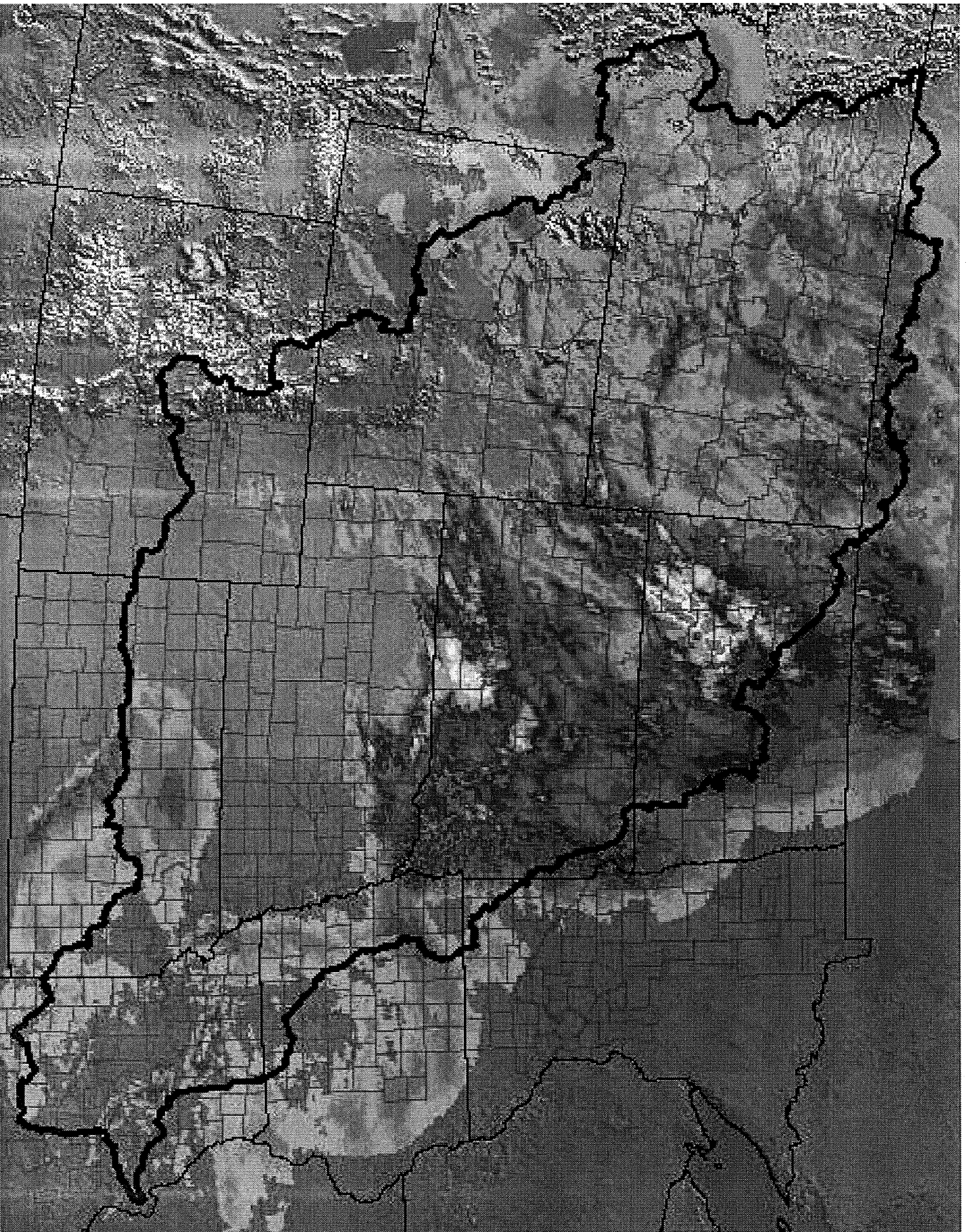
Local Storm Reports (timestamps are UTC)

[illegible]

Local Storm Reports (timestamps are UTC)

[illegible]





0.01 0.05 0.10 0.25 0.50 0.75 1.00 1.50 2.00 2.50 3.00 4.00 5.00 6.00 8.00 +

MBRFC 24-Hour Gage Biased Estimated Rainfall (inches)

Ending: 6/13/2011 at 7:00AM CDT

Created 6/13/2011 at 7:32 AM CDT

[REDACTED] NWO

From: [REDACTED]
Sent: Monday, June 13, 2011 8:41 AM
To: [REDACTED]
Cc: Farhat, Jody S NWD02
Subject: Gate Questions (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: FOUO

[REDACTED]
I'd like to know how high we'd have the spillway gates raised, if they were raised evenly to provide surcharge on the reservoir, and we were releasing 150,000 cfs for the following scenarios:

- 1) Four units running, regulating tunnels at capacity.
- 2) Four units running, regulating tunnels closed.
- 3) Plant and regulating tunnels shutdown, all releases via spillway.

[REDACTED]
Operations Project Manager
Garrison Project

Classification: UNCLASSIFIED
Caveats: FOUO

From: [REDACTED]
Sent: Monday, June 13, 2011 8:40 AM
To: [REDACTED]
Cc: [REDACTED]
Subject: Mainstem data for NWO sitrep 6/13/11 (UNCLASSIFIED)

Notes for data below: pool elevation is the midnight value; average inflows and average releases are average daily values; scheduled releases are the release from the project at the end of the day per yesterday's project orders.

6/12 Pool Elev: 2251.9 ft-msl

6/12 Ave Inflow: 89,000 cfs

6/12 Ave Release: 63,700 cfs

6/13 Scheduled Release: 65,000 cfs

6/12 Pool Elev: 1853.3 ft-msl

6/12 Ave Inflow: 142,000 cfs

6/12 Ave Release: 135,300 cfs

6/13 Scheduled Release: 140,000 cfs

6/12 Pool Elev: 1618.3 ft-msl

6/12 Ave Inflow: 122,000 cfs

6/12 Ave Release: 150,400 cfs

6/13 Scheduled Release: 150,000 cfs

Big Bend Dam (SD)

6/12 Pool Elev: 1420.0 ft-msl

24-hr change: 0.4'

6/12 Ave Inflow: 150,000 cfs

6/12 Ave Release: 149,400 cfs

6/13 Scheduled Release: 150,000 cfs

Fort Randall Dam (SD)

6/12 Pool Elev: 1362.5 ft-msl

24-hr change: 0.3'

6/12 Ave Inflow: 155,000 cfs

6/12 Ave Release: 137,400 cfs

6/13 Scheduled Release: 140,000 cfs

Gavins Point Dam (NE-SD)

6/12 Pool Elev: 1207.4 ft-msl

24-hr change: -0.3'

6/12 Ave Inflow: 141,000 cfs

6/12 Ave Release: 144,900 cfs

6/13 Scheduled Release: 145,000 cfs

Classification: UNCLASSIFIED

Caveats: NONE

NWO

From: [REDACTED] NWO
Sent: Monday, June 13, 2011 8:34 AM
To: [REDACTED]
[REDACTED] M/NW002; [REDACTED] D-HQ02; [REDACTED] Ross, J A
Farhat, Jody S NW002; [REDACTED] D-NW00; [REDACTED] M/NW00; [REDACTED] S
NW00; [REDACTED] NW00; [REDACTED] Jody L NWO; Schenk, Kathryn M NWO; Tabata
A [REDACTED] OD; Worner, Robert I NWO
Subject: Garrison Report (UNCLASSIFIED)
Attachments: 6-13 Garrison Flood Fight Daily Staff Notes.docx; Main Stem Regulation Forecast - Three-
Week (6-12).mht

Classification: UNCLASSIFIED
Caveats: FOUO

Today's report and 3-week schedule is attached.

Todd J. Lindquist, P.E.
 Operations Project Manager
 Garrison Project

Classification: UNCLASSIFIED
Caveats: FOUO

**Garrison Flood Fight
Daily Staff Notes
Monday, June 13, 2011**

Forecast/Flows/River Monitoring:

- Lake Sakakawea:
 - Current Reservoir Elevation: 1853.41. Yesterday's elevation: 1853.05
 - Current Tail water Elevation 1683.51. Yesterday's elevation 1683.51
 - Stilling Basin (a.k.a. Spillway Pond) elevation: 1687.0
 - Estimated Inflows 129,000 cfs, Releases: 135,000 cfs
 - Release Schedule: Go to 140,000 cfs today. Increase to 145,000 cfs on Friday. Goal remains at 150,000 cfs by June 17th.
 - Spillway gates #'s 1-7 and 21-28 are open one foot. Gate #'s 8-20 are open approximately 2 feet.
 - Current release distribution: Power Plant - 15,000 cfs, Regulating Tunnels - 80,500 cfs, Spillway - 44,500 cfs.
- Fort Peck releases 65,000 cfs scheduled to remain at that level until June 19th before going back down to 60,000 cfs.
- Missouri River Elevations:
 - Bismarck gage: Currently 17.83 feet, Protection measures in Bismarck were to 21.6 feet with a forecasted crest of 20.6 feet.
 - Williston gage: Currently 29.3 feet, forecasted to go to 30.0 feet by Tuesday. Previous record stage: 28.0 feet.
- Current Snowpack:
 - Ft Peck - crested at 136% of normal peak; currently 80% of the normal peak remains.
 - Garrison - crested at 141% of peak; currently 92% of the normal peak remains.

Garrison Dam Surveillance:

- Surveillance (Team Leader, [REDACTED]; cell: ([REDACTED]))
 - Cracks in pavement have been marked; measurements will be taken periodically to monitor movement. Marked locations (painted) are at Station 55, 75 and 90.
 - Wet areas on East abutment have been GPSed and seem to track with the lignite seam in that area. Seepage would be expected.
- Instrumentation (Team Leader [REDACTED]; cell: ([REDACTED]))
 - Tilt plate 99 was checked yesterday, it is showing signs of movement. Currently being evaluated by dam safety engineers.

Snake Creek Embankment/ Lake Audubon:

- Surveillance:
 - Some areas of potential movement were noted. Allyn has developed maps that show the corresponding transmission towers and stationing at Snake Creek. The maps will be utilized by the monitoring crews to mark locations where items are noted. Thanks Allyn!

- Lake Audubon has been filled to elevation 1849.5 to utilize additional storage. Currently we do not plan to increase that elevation.

Williston Levee:

- POC's [REDACTED], cell: (701) [REDACTED].
- The boils at Williston are still flowing clear water. Additional small pin boils continue to surface and seepage areas continue to appear.
- Contractor hired to improve the toe road, was scheduled to mobilize last evening.

Natural Resources:

- POC's [REDACTED], cell: (701) [REDACTED], [REDACTED] (701) 400-0000.
- Visitation to the spillway and tailrace overlooks was "overwhelming" this past weekend. Despite having three deputies working these areas, along with Natural Resources staff, we simply could not keep up. Traffic was backed up onto highway 200. We must get a contract in place to direct traffic and parking!
- Natural Resource personnel are doing an outstanding job of providing visitor assistance and interacting with the public!

Outside Maintenance:

- In response to yesterday's report regarding continued minor slides beneath the tailrace overlook area, project staff restricted vehicle parking near the edge of the area. Parking blocks will be added and the interpretive signs will be located back from the edge of the overlook.
- Will begin working on some grading and backfilling to address drainage issues at both sides of the spillway.
- Temporary water line: If a leak is noted, notify your supervisor, Chuck Phelps, or I ASAP. Also notify City of Riverdale, "Clay" at (701) 471-6433 or Charles Sorensen ext. 232, or home (701) [REDACTED]. Shutoff valves located on the line. A drawing showing the locations of these valves is posted in the Outside Maintenance shop. A valve key to close the valves is located immediately inside the front door of the maintenance building.

Power Plant:

- Need to coordinate automation of the regulating tunnel gates with Omaha to ensure compliance with EC 1110-2-6071, which restricts remote operations for water control features that pose life safety risk.
- Will work on the camera issues at the spillway again today..
- We are currently running two units and making the releases up via the spillway and regulating tunnels.

Weather/Safety:

Today for Riverdale: Partly cloudy. High 78F. Winds W at 10 to 15 mph. Chance of rain 20%.	Tonight for Riverdale: A few passing clouds. Low 56F. Winds light and variable. Chance of rain 20%.	Tomorrow: Scattered thunderstorms, especially in the afternoon. High 67F. Winds S at 5 to 10 mph. Chance of rain 60%.
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- Areas around the dam received 1 to 2 inches of rain last evening.
- Mike Morris and Charles Sorensen have volunteered to work on evacuation plans. I will coordinate with them to develop these plans this week.

Needed Resources:

- Maps for location of emergency stockpiles were provided to Omaha yesterday. We will establish a new emergency stockpile located to the northwest of the Intake overlook area.
- NR's to coordinate an inventory and review of life jackets on hand. A new order will be placed to replace worn out life jackets and to acquire some additional larger sizes.
- Fuel is to be delivered today!
- Looking into upgrading our radios so that we can utilize them effectively for local communication. Cell phone coverage is spotty in several locations.

Any resource needs, safety issues, or emergencies should be directed to your team leaders/POC immediately. If they cannot be reached contact Todd Lindquist (cell: 701-220-2359 / Home: 701-487-3411).

OPM Notes:

- Everyone is stepping up and doing outstanding work, but many staff members need a break! I will be working schedules this week and attempt to get some folks time off. Currently it looks like we'll have to go to 24 hour surveillance on July 3rd and we expect extremely high visitation. We need to get some rest as we are just beginning this event...
- I visited with Rob Holm (Garrison National Hatchery Manager) this morning. He was inquiring about our security and when they'd be able to open the hatchery to visitation. I notified Rob that I do not intend to open the downstream area any time soon. He did not like that, but understood. He asked about his staff that is living at the Hatchery and what they'd be allowed to do? I told him they could walk and bike downstream as long as they are wearing safety vests. I did tell him that we are not allowing any fishing downstream due to fast water and eroding banks.
- The double lock on the East diagonal road needs to be kept in place! The second lock is for hatchery personnel. Construction Division requested another lock on the gate for their contractor. I do not intend to allow that. The gate is manned during the week and manned in the mornings on weekends. If they work weekends, they will have to schedule with us. Maintaining access and security is simply too hard to do with more locks and keys issued.
- Take your time and know where you are driving. Use spotters when needed...

- Flood team meetings every morning at 0700 hours in the Outside Maintenance Building.

This regulation forecast was made using computed reservoir inflows based on 5-days of forecast precipitation and mountain snowmelt runoff. The regulation forecast is subject to change daily as actual events occur.

* Indicates release changes from previous forecast

		FTPCK				GARR				OAHE				BEND				FTRA			
		24EL	24ID	24OD	24GE	24EL	24ID	24OD	24GE	24EL	24ID	24OD	24GE	24EL	24ID	24OD	24GE	24EL	24ID	24OD	24GE
12		2251.9	90.0	65.0	5.13	1853.1	148.0	135.0	9.23	1618.6	150.3	150.0	13.89	1419.7	150.0	150.0	8.68	1362.5	152.1	137.0*	9
13	M	2252.1	85.0	65.0	5.13	1853.2	164.4	140.0	9.24	1618.6	152.0	150.0	13.89	1419.7	150.0	150.0	8.64	1362.8	152.5	140.0*	9
14	T	2252.2	78.0	65.0	5.14	1853.4	173.7	140.0	9.24	1618.6	152.7	150.0	13.89	1419.7	150.0	150.0	8.62	1362.9	152.4	147.0	9
15	W	2252.3	73.0	65.0	5.14	1853.6	171.3	140.0	9.25	1618.7	153.8	150.0	13.90	1419.7	150.0	150.0	8.60	1363.0	152.4	148.0	9
16	T	2252.3	67.0	65.0	5.14	1853.7	164.5	145.0	9.26	1618.7	158.0	150.0	13.90	1419.7	150.0	150.0	8.59	1363.1	152.4	148.0	9
17	F	2252.3	63.0	65.0	5.14	1853.7	163.0	150.0	9.26	1618.8	162.6	150.0	13.90	1419.7	150.0	150.0	8.57	1363.2	152.4	148.0	9
18		2252.2	59.0	65.0	5.14	1853.8	164.0	150.0	9.26	1618.9	170.4	150.0	13.91	1419.7	150.0	150.0	8.56	1363.3	152.4	148.0	9
19		2252.1	56.0	65.0	5.13	1853.9	164.0	150.0	9.27	1619.0	176.8	150.0	13.92	1419.7	150.0	150.0	8.55	1363.4	152.4	148.0	9
20	M	2252.1	53.0	60.0	5.13	1853.9	165.0	150.0	9.27	1619.1	172.0	150.0	13.93	1419.7	150.0	150.0	8.53	1363.5	152.4	148.0	9
21	T	2252.0	51.0	60.0	5.13	1854.0	162.8	150.0	9.27	1619.3	175.0	150.0	13.94	1419.7	150.0	150.0	8.52	1363.6	152.4	148.0	9
22	W	2251.9	49.0	60.0	5.13	1854.1	161.6	150.0	9.28	1619.4	173.0	150.0	13.95	1419.7	150.0	150.0	8.50	1363.7	152.4	148.0	9
23	T	2251.9	53.0	60.0	5.13	1854.1	157.8	150.0	9.28	1619.5	169.0	150.0	13.95	1419.7	150.0	150.0	8.49	1363.8	152.4	148.0	9
24	F	2251.8	56.0	60.0	5.13	1854.1	152.6	150.0	9.28	1619.6	166.0	150.0	13.96	1419.7	150.0	150.0	8.48	1363.8	152.4	148.0	9
25		2251.8	59.0	60.0	5.13	1854.1	144.0	150.0	9.28	1619.6	162.0	150.0	13.96	1419.7	150.0	150.0	8.46	1363.9	152.2	148.0	9
26		2251.8	62.0	60.0	5.13	1854.1	157.0	150.0	9.28	1619.7	158.0	150.0	13.97	1419.7	150.0	150.0	8.45	1364.0	152.0	148.0	9
27	M	2251.9	66.0	60.0	5.13	1854.2	162.0	150.0	9.28	1619.7	157.0	150.0	13.97	1419.7	150.0	150.0	8.44	1364.1	151.9	148.0	9
28	T	2251.9	70.0	60.0	5.13	1854.3	167.0	150.0	9.29	1619.7	156.0	150.0	13.97	1419.7	150.0	150.0	8.42	1364.2	151.7	148.0	9
29	W	2252.1	74.0	60.0	5.13	1854.4	171.0	150.0	9.29	1619.7	155.0	150.0	13.97	1419.7	150.0	150.0	8.41	1364.3	151.5	148.0	9
30	T	2252.2	74.0	60.0	5.13	1854.5	177.0	150.0	9.30	1619.8	154.0	150.0	13.97	1419.7	150.0	150.0	8.40	1364.3	151.4	148.0	9
1	F	2252.3	74.0	60.0	5.14	1854.6	175.0	150.0	9.31	1619.8	153.0	150.0	13.98	1419.7	150.0	150.0	8.39	1364.4	151.2	148.0	9
2		2252.4	73.0	60.0	5.14	1854.7	173.0	150.0	9.31	1619.8	152.0	150.0	13.98	1419.7	150.0	150.0	8.38	1364.4	151.0	148.0	9
3		2252.4	67.0	60.0	5.14	1854.8	172.0	150.0	9.32	1619.8	151.5	150.0	13.98	1419.7	150.0	150.0	8.37	1364.5	150.9	148.0	9
4	M	2252.4	64.0	60.0	5.14	1854.9	171.0	150.0	9.32	1619.8	151.5	150.0	13.98	1419.7	150.0	150.0	8.36	1364.6	150.7	148.0	9
5	T	2252.4	59.0	60.0	5.14	1855.0	170.0	150.0	9.33	1619.8	151.5	150.0	13.98	1419.7	150.0	150.0	8.35	1364.6	150.5	148.0	9
6	W	2252.4	54.0	60.0	5.14	1855.1	169.0	150.0	9.33	1619.8	151.5	150.0	13.98	1419.7	150.0	150.0	8.35	1364.7	150.4	148.0	9
7	T	2252.3	50.0	60.0	5.14	1855.2	166.0	150.0	9.34	1619.8	151.5	150.0	13.98	1419.7	150.0	150.0	8.34	1364.7	150.2	148.0	9
8	F	2252.2	49.0	60.0	5.13	1855.3	164.0	150.0	9.34	1619.8	151.5	150.0	13.98	1419.7	150.0	150.0	8.33	1364.8	150.2	148.0	9
9		2252.1	49.0	60.0	5.13	1855.3	162.0	150.0	9.34	1619.8	151.5	150.0	13.98	1419.7	150.0	150.0	8.33	1364.8	150.2	148.0	9
10		2252.0	48.0	60.0	5.13	1855.4	160.0	150.0	9.34	1619.8	151.5	150.0	13.98	1419.7	150.0	150.0	8.32	1364.9	150.2	148.0	9
11	M	2251.9	47.0	60.0	5.13	1855.4	158.0	150.0	9.35	1619.8	151.5	150.0	13.97	1419.7	150.0	150.0	8.31	1364.9	150.2	148.0	9
12	T	2251.7	46.0	60.0	5.12	1855.4	156.0	150.0	9.35	1619.8	151.5	150.0	13.97	1419.7	150.0	150.0	8.30	1364.9	150.2	148.0	9
13	W	2251.6	45.0	60.0	5.12	1855.4	154.0	150.0	9.35	1619.8	151.5	150.0	13.97	1419.7	150.0	150.0	8.30	1365.0	150.2	148.0	9
14	T	2251.5	44.0	60.0	5.12	1855.4	152.0	150.0	9.35	1619.8	151.5	150.0	13.97	1419.7	150.0	150.0	8.29	1365.0	150.2	148.0	9
15	F	2251.3	38.0	60.0	5.11	1855.4	150.0	150.0	9.35	1619.8	151.5	150.0	13.97	1419.7	150.0	150.0	8.28	1365.1	150.2	148.0	9

Project:

24EL Midnight Elevation (feet above mean sea level)
 24ID Daily Average Inflow (kcfs)
 24OD Daily Average Release (kcfs)
 24GE Daily Power Generation (MWh)

System:

GE Daily Power Generation (MWh)
 SG Midnight Storage (AF)
 DSG Daily Storage Change (AF)

Units:

kcfs thousand cubic feet per second
 MWh megawatt hour
 AF acre-feet

Pagemaster: Water Management; CENWD-PDR;

Internet E-Mail Address: Missouri.Water.Management@nwd02.usace.army.mil

NWO

From: Anderson, G Witt NWD
Sent: Monday, June 13, 2011 8:26 AM
To: Blechinger, Erik T NWO; [REDACTED] NWD; Farhat, Jody S NWD02
Subject: FW: USACE News: Fort Peck to increase levels to 65,000 cfs (UNCLASSIFIED)

Classification: UNCLASSIFIED

Caveats: NONE

Fysa.

-----Original Message-----

From: David Pope [mailto:david.pope@mo-rast.org]
Sent: Monday, June 13, 2011 6:23 AM
To: Anderson, G Witt NWD
Cc: mikehaydenks@gmail.com; McMahon, John R BG NWD
Subject: RE: USACE News: Fort Peck to increase levels to 65,000 cfs

Thanks, Witt.

Glad you are getting a firsthand look and helping to provide the top leadership needed in this situation, along with General McMahon and the other Commanders and key staff. I think it has been good that the Corps leadership have been very visible and actively engaged with the other levels of government and the public during this event.

The leadership in our group is starting to discuss the long term implications of the flood, what level of review may be appropriate and how it might relate to MRAPS, for example. It's my view that flood management is not just storage, reservoir operations and levees, and even emergency response, but what is the floodplain and the broader floodplain management issue.

Thanks. David

-----Original Message-----

From: Anderson, G Witt NWD [mailto:G.Witt.Anderson@usace.army.mil]
Sent: Saturday, June 11, 2011 11:34 PM
To: David Pope
Cc: mikehaydenks@gmail.com; McMahon, John R BG NWD
Subject: Re: USACE News: Fort Peck to increase levels to 65,000 cfs

David, thanks much for your note. I've been in Omaha and Kansas City in the last few days with our teams and on the ground with local levee sponsors and communities and can say without any doubt that all concerned are working together to do the best possible in this challenging situation.

The rumors and mis-information are unfortunate, but our work, the system management and the facts about all that occurred will be open and transparent. This is a circumstance of unprecedented hydrology, which I believe will call for serious technical and policy review in regards to the Missouri River system. Right now we are focused on mitigating the safety and economic/social consequences.

We appreciate your objective understanding.

Regards,

Witt

Message sent via my BlackBerry Wireless Device

----- Original Message -----

From: David Pope <david.pope@mo-rast.org>
To: McMahon, John R BG NWD; Ruch, Robert J COL NWO; Hofmann, Anthony J COL NWK; Farhat, Jody S NWD02; Blechinger, Erik T NWO
Cc: Todd Sando (tsando@nd.gov) <tsando@nd.gov>; Mike Hayden (mikehaydenks@gmail.com) <mikehaydenks@gmail.com>; Anderson, G Witt NWD
Sent: Sat Jun 11 20:11:54 2011
Subject: FW: USACE News: Fort Peck to increase levels to 65,000 cfs

General McMahon, Col. Ruch, Col. Hofmann, Jody, and Erik,

Just want to let you know that I think you and your staff are doing a great job during this flood and appreciate the extensive information you have provided to the public. While I know some people are overloaded with information, I typically forward the USACE News Releases and other information shortly after received to our MoRAST Board and State/Tribal distribution list of some 100 people. I usually don't add too many comments, but I added a few of my own comments this evening regarding the dam safety issue, since unwarranted assertions about that issue are especially unfortunate. I suppose it should not be surprising that there will be misinformation and second guessing given the complexity of the issues and stress people are under when their lives are disrupted by flooding.

Hang in there and keep up the good work! The JIC was a good idea. I often call in.

David

-----Original Message-----

From: David Pope
Sent: Saturday, June 11, 2011 9:25 PM
Subject: FW: USACE News: Fort Peck to increase levels to 65,000 cfs

I am forwarding the following Corps News Release indicating that they are increasing releases at Fort Peck Reservoir to 65,000 CFS because "Inflows at Fort Peck remain well above previously forecasted levels for the next six to eight days". The reservoir reached a record elevation of 2251.6, which is 1.6 feet into surcharge storage above the top of the exclusive flood pool. The Corps notes that this increase should not affect the planned peak releases from the other five main stem dams.

Also attached is the June 11 Riverwatch and a News Release from the USACE that generally responds to assertions and inaccurate statements that the main stem reservoirs are not safe. Col Ruch describes current operation and condition of the main stem dams and references the Corps dam safety program and further notes:

It is worth noting that all six dams have experienced similar pool levels several times over their service life. We make it standard operating procedure to increase the level of surveillance as water levels rise so that we can best manage the risks associated with dams of this size and importance. Our elevated surveillance on these dams has not revealed any significant issues or concerns regarding operation at these high pools and or record releases.

In closing, I have full confidence in the operational integrity of our main stem dams. Our dams are inspected and maintained on rigid

schedules. Holding back volumes of water is what they were designed to do, and these structures have not only met but surpassed these expectations. We are respectful of these structures and pledge to remain vigilant to continually evaluate the performance and reliability of these projects into the future.

The Corps is 100 percent committed to this flood fight and we will continue to manage this record event on the river with public safety as our top priority. We will continue to use best engineering practices to manage the flood waters in the Missouri River main stem dam and reservoir system as the fight moves into summer.

Thanks. David

David L. Pope, Executive Director
Missouri River Association of States and Tribes
825 S. Kansas Avenue, Suite 500
Topeka, Kansas 66612
Office: (785) 235-3247, FAX: (785) 233-3104, Mobile: (785) 221-0807 david.pope@mo-rast.org
www.mo-rast.org

-----Original Message-----

From: [REDACTED] [mailto:[REDACTED]@usace.army.mil]
Sent: Saturday, June 11, 2011 6:35 PM
To: David Pope
Subject: USACE News: Fort Peck to increase levels to 65,000 cfs

U.S. Army Corps of Engineers
Omaha District

News Release

Release No: Fort Peck PA-04
Contact [REDACTED]

Cel [REDACTED] (406) 526-7300 FOR Release: June 11, 2011

FORT PECK TO INCREASE RELEASE LEVELS TO 65,000 CFS

Fort Peck, Mont. - The U.S. Army Corps of Engineers' Fort Peck Dam will increase releases to 65,000 cubic feet per second (cfs) Saturday. The project released 60,000 cfs today and Fort Peck Reservoir reached 2251.6 feet mean sea level today, equaling the previous record set in 1975.

"Inflows at Fort Peck remain well above previously forecasted levels for the next six to eight days," said Jody Farhat, Chief of the Missouri River Water Management office. "As a result, releases at Fort Peck will be increased to better balance the flood storage between Fort Peck and Garrison."

The Fort Peck releases should not affect planned peak releases at the other five Missouri River dams, Farhat said.

"River levels are very high and we encourage residents living downstream to closely monitor the situation and take appropriate action if necessary," said John Daggett, Fort Peck Project Manager.

Heavy rain and melting of historic levels of snowpack over the Northwestern Division area have raised water levels of rivers and reservoirs. Portions of Montana received nearly a year's worth of rain last month, nearly filling the reservoirs.

For general questions regarding Missouri River flood response information, please call (402) 996-3877 or email the joint information center at MRJIC@usace.army.mil

Please follow us on Facebook (www.facebook.com/OmahaUSACE), (www.facebook.com/OperationMightyMo), Twitter (www.twitter.com/OmahaUSACE), YouTube (www.youtube.com), and FLICKR (www.flickr.com) for the latest updates regarding our flood response operations.

You can also find flood inundation maps and local emergency management contact information on or social media sites and at <http://www.nwo.usace.army.mil>. View daily and forecasted reservoir and river information on the Water Management section of the Northwestern Division homepage at <http://nwd-mr.usace.army.mil/rcc>.

-END-

If you would rather not receive future communications from U.S. Army Corps of Engineers, please go to <http://USACEARMY.pr-optout.com/OptOut.aspx?520028x24691x317904x3x1875296x24000x6&Email=david.pope%40mo-rast.org>.

U.S. Army Corps of Engineers, 1616 Capitol Ave Attn: CENWO-PA, Omaha, NE
68102 United States

Classification: UNCLASSIFIED
Caveats: NONE

NWO

[REDACTED]
Monday, June 13, 2011 8:17 AM
[REDACTED] Farhat, Jody S NWD02; [REDACTED] Koenig, R NWD02; Hagerau,
[REDACTED] C NWD02; Hoffman, Scott NWD-OMAHA; Jensen, Kathleen A NWD02;
[REDACTED] Grogzinski, Joel D NWD02; Laine, Doug C NWD02; Poonchirak, Ann A NWD02; Rogers,
[REDACTED] C NWD02; Starnum, Kevin D NWD02; Swenson, Michael A NWD02

Classification: UNCLASSIFIED
Caveats: NONE

I am copying aerial photos from Omaha District to the public drive at V:\Public\Flood_2011\pictures\Missouri River Aerial Photos. The photos are divided by river reach.

Classification: UNCLASSIFIED
Caveats: NONE

[REDACTED] NWO

From: Anderson, G Witt NWD
Sent: Monday, June 13, 2011 7:47 AM
To: Farhat, Jody S NWD02; Blechinger, Erik T NWO; [REDACTED] NWD
Cc: McMahon, John R BG NWD; Ruch, Robert J COL NWO
Subject: FW: Missouri River Basin and Mainstem Reservoir System 2011 (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

I think the point is we need to consider the MM and AOP and against this unprecedented inflow data to see if there are any adjustments that may be appropriate. Stopping short of saying what we would do - amend, revise, etc. - pending the look. We always want to take into account the best available information and any significantly changed conditions.

Witt

-----Original Message-----

From: Temple, Bo M MG HQ02
Sent: Monday, June 13, 2011 5:37 AM
To: [REDACTED] McMahon, John R BG NWD; Grisoli, William T MG HQ02
Cc: [REDACTED] Anderson, G Witt NWD; Tipton, Robert A Col
[REDACTED]
Subject: RE: Missouri River Basin and Mainstem Reservoir System 2011 (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Since precise language in our business is so important, recommend you and John collaborate to amend these talking points accordingly. I suggested to the Congressional folks I visited last week that we were willing to look at amending the Master Manual if it could be shown, post mortem, that it was needed. Agree that, like always, we should relook and adjust the Annual Operating Plan (note the caps), which we do every year anyway. Please make whatever revisions are needed, coordinate with PAO, and publish soonest. Thanks!

-----Original Message-----

From: [REDACTED]
Sent: Monday, June 13, 2011 8:05 AM
To: McMahon, John R BG NWD; Grisoli, William T MG HQ02
Cc: Temple, Bo M MG HQ02; [REDACTED] Anderson, G Witt NWD; Tipton, Robert A Col NWD; Ruch, Robert J COL NWO; Hofmann, Anthony J COL NWK; H [REDACTED] NWD; Blechinger, Erik T NWO; Farhat, Jody S NWD02; [REDACTED]
Subject: RE: Missouri River Basin and Mainstem Reservoir System 2011 (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

John, thx, good note. I would offer an additional comment: the Missouri River Mainstem Reservoir system is operated in accordance with the Master Manual for the Congressionally authorized multi-purposes and to comply with environmental laws and stewardship. The current Master Manual was accomplished as you state and in conformance with lengthy consultation and the published Environmental Impact Statement.

All need be very cautious of suggesting, especially externally, that the Master Manual should be revised: it is not a casual matter. I would offer this year was not a case of operating

per the Master Manual, the Manual needs be changed, but rather we published our annual operating plan based on assumed flows and weather conditions. All was ok till May, and then the perfect storm of events occurred! Overall the Corps team is doing great! Dealing with these inordinate conditions and especially getting info out timely to the public.

Best v/r [REDACTED]

BUILDING STRONG!

[REDACTED] P.E., SES
Director, Contingency Operations and Homeland Security HQ USACE
[REDACTED] (202) 374-7245
[REDACTED]

-----Original Message-----

From: McMahon, John R BG NWD

Sent: Monday, June 13, 2011 6:03 AM

To: Grisoli, William T MG HQ02

Cc: Temple, Bo M MG HQ02; [REDACTED]

[REDACTED] Anderson, G Witt NWD; Tipton, Robert A Col NWD; Ruch, Robert J COL NWO; Hofmann, Anthony J COL NWK; [REDACTED] Blechinger, Erik T NWO; Farhat, Jody S NWD02

Subject: Missouri River Basin and Mainstem Reservoir System 2011

Sir:

Welcome back! Following a very well written, fact based set of talking points that includes some of the most recent system-wide forecasts in a historical context. May come in handy as you meet Members and read the various pieces in the news.

Vr/John

One of the primary purposes of the Missouri River Mainstem Reservoir System is to reduce risks from floods to people, homes and businesses. Dams do not stop floods, rather they allow flood waters to be captured and then released in a controlled manner.

Releases from the Missouri River dams last fall and throughout the winter of 2010 were above normal in order to evacuate all flood waters from 2010, which was the third highest water year on record in the Missouri River Basin. On 28 January 2011, the full flood capacity of the Missouri River reservoir system was available for this year's runoff season. At that point, and all the way through the first of May, we had no reason to think we needed to increase releases beyond normal levels.

The flood of 2011 is a perfect storm of events: 1) heavy plains snow; 2) extraordinary rainfall in eastern Montana, Northern Wyoming and the western Dakota in one month (300% of normal in May); and 3) additional mountain snowpack accumulation to record levels in May and a delayed melt. Our reservoirs captured the record runoff in the basin during May. This provided people downstream time to prepare for higher than normal releases required to make room in the reservoirs for the record mountain snowpack, which still needed to enter the reservoirs.

The May 2011 runoff into the Missouri River Basin above Sioux City was 10.5 MAF - our normal May runoff based on historical records is 3.3 MAF. This was the second highest single month of runoff since 1898. The only higher was in 1952, a significant flood year, with 13.2 MAF in April. Not only is the May inflow unprecedented, but the yearly inflow is now forecast to be 54.6 MAF, more than twice the normal 24.8 MAF, and will be the highest ever.

The Missouri River Mainstem Reservoir System, which includes 6 dams, has been operated this year in accordance with the Master Manual. The Master Manual is a water control plan that helps guide how much water should be released, when, and for how long from the 6 reservoirs for the benefit of the entire Missouri River basin. The reservoir system is multi-use and is

operated for 8 Congressionally-authorized purposes - it is not optimized for any one purpose. A primary purpose is flood risk management. The reservoirs were designed to capture spring and summer runoff and allow the Corps to manage releases throughout the year to accommodate the other 7 authorized purposes: navigation, irrigation, water supply, hydropower, fish and wildlife, recreation, and water quality.

The Corps revised the Master Manual in 2004 following a 14-year period of public involvement throughout the Missouri River Basin to gain input on how the System should be operated. Hundreds of alternatives were analyzed and considered during this process. The current Master Manual reflects the input from the public and Tribes throughout the entire Basin on how the reservoirs could best be operated to serve all the purposes for which they were authorized and constructed.

Classification: UNCLASSIFIED
Caveats: NONE

Classification: UNCLASSIFIED
Caveats: NONE

Classification: UNCLASSIFIED
Caveats: NONE

NWO

From: [REDACTED], Ryan M NWO
Sent: Monday, June 13, 2011 7:44 AM
To: Ruch, Robert J COL NWO
Cc: [REDACTED] NWO; Farhat, Jody S NWD02
Subject: Final PDFs for SD Operations and Fact Sheets (UNCLASSIFIED)
Attachments: StateFactSheets12June2011.pdf; SD_Operations_12_Jun_2011.pdf

Classification: UNCLASSIFIED
Caveats: NONE

Sir,

I know multiple emails have been sent out with these updates. Here are the final copies and these are the copies that were used to print the packets to be taken on the trip today.

[REDACTED]

[REDACTED]
Natural Disaster Program Manager, Readiness Branch U.S. Army Corps of Engineers, Omaha
District

1015 Capitol Ave, Suite 9000 (Attn: CENWO-OD-E) Omaha, NE 68102-9000

Phone: (402) 995-2446

FAX: (402) 995-2450

Cell: (402) 995-2450

ryan.m.buckley@usace.army.mil

Classification: UNCLASSIFIED
Caveats: NONE



Montana Flood Fight 2011 Mitigation Actions

As of 12 June 2011 – 1400 hrs

USACE Personnel on the Ground

Ft. Peck – 5

Details on Contracts

Roundup, MT (sanitary lift station)

120 LF

Earthen Levee

5.5 ft in height

\$84k

Project stopped due to heavy rains and flooded work site

Contract has been cancelled

Materials Deployed

Deployed 538,900 Sandbags

Currently have 102,000 Sandbags on hand

Deployed 240 Rolls of Poly

Currently have 90 rolls of Poly on hand

Deployed 4 pumps

Currently have 0 pumps on hand

Daily Calls

Governor, Congressional Offices, Tribes, etc. – 1700 hrs daily



North Dakota Flood Fight 2011 Mitigation Actions

As of 12 June 2011 – 1700 hrs

USACE Personnel on the Ground

Williston – 6
Garrison -4
Bismarck/Mandan -2
Ft. Yates - 1
ND EOC - 1

Details on Contracts

Bismarck/Mandan

- Contract No. 1 – Segment D
5,500 LF
Earthen Levee
2 to 8 feet in height
\$1.4 M
Contract Completion 05 Jun 2011
- Contract No. 2 – Segment E & F
10,500 LF
Earthen Levee
Seg E: 3'; Seg F: 2-6' in height
\$393 K
Contract Completion 05 Jun 2011
- Contract No. 3 – Segment A & C
56,500 LF
Seg A: Earthen Levee; Seg C: Trapbags
Seg A: 2-5'; Seg C: 6' in height
\$1.07 M
Contract Completion 05 Jun 2011
- Contract No. 4 – Prairie Rose Elementary School
750 LF
Trapbags
6' in height
\$305 K
Contract Completion 05 Jun 2011
- Contract No. 5 – Mandan
18,500 LF
Earthen Levee and Hescos
2 to 5' in height
\$2.1 M
Contract Completion 05 Jun 2011
- Contract No. 6 – Burleigh Ave, Segment B & E (northern section), 48th Ave
17,120 LF
Earthen Levee, Hescos and Trapbags
2 to 8' in height
\$2.47 M
Contract Completion 05 Jun 2011

Standing Rock Sioux Tribe

- Contract No. 1
Sitting Bull and Ft. Yates water intake erosion
Riprap - 690 Tons
Spalls - 255 Tons
Underwater Fill - 285 Tons
\$72k
Contract Complete 05 Jun 2011
- Contract No. 2
Erosion protection along causeway in Ft. Yates (North Side)
Total - Approximately .75 miles each side



North Dakota Flood Fight 2011 Mitigation Actions

As of 12 June 2011 – 1700 hrs

Riprap – 5,000 Tons per side

\$310k

Contractor is 57% complete on the North side

Contract Completion 15 June 2011

Option for \$290,000 for the south side protection was awarded

Total – Approximately .75 miles each side

Riprap – 5,000 Tons per side

Contraction completion will be 14 days after the North side is complete

Materials Deployed

Deployed 1.8 million Sandbags

Deployed 10,800 LF of Hescos

Deployed 403 Rolls of Poly

Deployed 5 pumps

Daily Calls

Governor, Congressional Offices, Tribes, Media, etc. – 1700 hrs daily



South Dakota Flood Fight 2011 Mitigation Actions

As of 12 June 2011 – 1730 hrs

USACE Personnel on the Ground

Standing Rock Sioux Tribe – 1
Ft. Pierre/Pierre – 4
Dakota Dunes – 4
Ft. Peck Project Office – 6
Oahe Dam Surveillance – 3
SD EOC – 1

Details on Contracts

Ft. Pierre

2 miles of Clay levee
Avg Height = 5.5 to 6 feet
\$5.95M
Contract Completion 04 Jun 2011

Pierre

2 miles of Clay levee
Avg Height = 5 ft
\$4.2M
Contract Completion 04 Jun 2011

Dakota Dunes

1.5 miles of clay levee
Storm Drain Closures – 14 EA
\$1.83M
Contract Completion 11 Jun 2011

Standing Rock Sioux Tribe

■ Contract No. 1

Sitting Bull and Ft. Yates water intake erosion
Riprap – 690 Tons
Spalls – 255 Tons
Underwater Fill – 285 Tons
\$72k
Contract Complete 05 Jun 2011

■ Contract No. 2

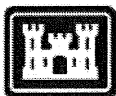
Erosion protection along causeway in Ft. Yates (North Side)
Total – Approximately .75 miles each side
Riprap – 5,000 Tons per side
\$310k
Contractor is 57% complete on the North side
Contract Completion 15 June 2011
Option for \$290,000 for the south side protection was awarded
Total – Approximately .75 miles each side
Riprap – 5,000 Tons per side
Contraction completion will be 14 days after the North side is complete

Materials Deployed

Deployed 10.8 million Sandbags
Deployed 758 Rolls of Poly
Deployed 4 pumps – 2 additional pumps will be delivered to Ft. Pierre/Pierre on Monday or Tuesday

Daily Calls

Governor, Congressional Offices, Tribes, Media, etc. – 1700 hrs daily



Nebraska Flood Fight 2011 Mitigation Actions

As of 12 June 2011 – 1700 hrs

USACE Personnel on the Ground

Lincoln – 1
North Platte – 5
Offutt – 1
South Sioux City – 2

Details on Contracts

North Platte

- White Horse Creek
0.5 mile ditch, Hesco
6 Ft deep x 25Ft wide, Hesco around electrical control room
\$1.95K
Contract/Mods Completed 30 May
- City Contract
3 Miles - New Levee, Raise Levee, Hesco, Sandbags
Ave Height = 1.5 to 4 feet
\$1.5M
Contract Completed 05 June 2011
- Sewage Lift Station
Hesco Ring
Ave Height = 4 feet
\$50K
Contract Completed 02 June 2011
- Cody Dillion Ditch
Hesco Ring
Ave Height = 4 feet
\$50K
Contract Completed 02 June 2011

Airport Levee

4000 Ft Levee Raise
To 1' above proposed elevation at 9000cfs flow
\$194,346
Contract Completion 14 June 2011

Dakota City

700 Ft.
Clay levee
Ave Height = 5 ft
\$0.2M
Contract Completed 07 Jun 2011

South Sioux City

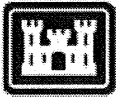
11,000 Ft.
Clay levee and raise road
Ave Height = 2 to 5 feet
\$1.7M
Contract Completed 08 Jun 2011

Levee R613/R616

Raise low areas approx. 8000 Ft.
Ave Height = 2 feet
Sandbags - AF providing labor
\$59,570
Contract Completed 11 June 2011

Materials Deployed

Deployed 1,019,000 Sandbags



Nebraska Flood Fight 2011 Mitigation Actions

As of 12 June 2011 – 1700 hrs

Deployed 2,274 3' Hescos
Deployed 3,400 4' Hescos
Deployed 152 Rolls of Poly
Deployed 7 pumps

Daily Calls

Governor, Congressional Offices, Tribes, etc. – 1700 hrs daily



Wyoming Flood Fight 2011 Mitigation Actions

As of 12 June 2011 – 1400 hrs

USACE Personnel on the Ground

Details on Contracts

No contracts pending or awarded

Materials Deployed

Elk Mountain

1,300 LF of Hesco (library, townhall, school and post office)

3,000 Sandbags

Labor provided by 12 Army/Air Force Wyoming National Guard

Material and equipment provided by Wyoming DOT

Completed 1 June 2011

State of Wyoming

Provided 300,000 Sandbags

Daily Calls

Governor, Congressional Offices, Tribes, Media, etc. – 1700 hrs daily

Communities/Public Agencies Contacted/Consulted

Lander

Dubois

Wind River Reservation, Eastern Shoshone and Northern Arapaho Tribes

Fort Washakie

Ethete

Fremont County Transportation Dept.

Riverton

Hudson

Torrington

Fort Laramie

Goshen County

Natrona County



Iowa Flood Fight 2011 Mitigation Actions

As of 12 June 2011 – 1700 hrs

USACE Personnel on the Ground

Sioux City – 5

Hamburg - 4

IA EOC – 0

Details on Contracts

Sioux City, IA water well protection and access road build. Award was made to Niewohner Construction, Inc. \$370,250.00 Contract Number W9128F-11-C-0041, dated 10 June 2011.

L575 Emergency Levee Repair-W9128F-8-D-0031, TO0012 \$400,000

L575 Emergency Levee Repair/Ditch 6, Hamburg, IA-W9128F-8-D-0031, TO0012 Mod 1, \$2.5M

Technical Assistance

Woodbury County – Flood Inundation review, 750K sandbags, 500 rolls of poly, 2 -12" pumps and local levee construction support to Sioux City and Port Neal area. Construction contract (listed above) for protection of two municipal wells, access road and protection of ten-transformer pads is ongoing

Monona County – Flood inundation review and one-12", one-16" & three-8" pump for Blencoe area

Harrison County – Flood Inundation review, 160K sandbags. four 12" pumps.

Pottawattamie County – Flood Inundation review, Levee inundation and flood review with Council Bluffs Public Utilities, 50K sandbags and 4700 LF Hescos

Mills County – Flood inundation review, Town Hall meetings on 6 & 7 Jun 11; sand bag filler machine; technical review for their berm construction projects.

Fremont County – Flood Inundation review, two levee reviews, levee repair request, sand bag filler machine, a 12" and 16" pump, 120 2 emergency levee 575 repairs and construction of Ditch 6, Hamburg, IA, including providing 120 rolls of poly and 37K of sandbags, 3,000LF of 4' HESCOs

Materials Deployed

Deployed 1.17 Million Sandbags

Deployed 695 rolls of Poly

12,710 4' Hescos

25 – 3K lb sandbags

6 – 1.5k LB sandbags

1 – Sand bag filler machine

5 pumps

Daily Calls

State of Iowa – 1430 hrs daily

Governor, Congressional Offices, Tribes, etc – 1700 hrs daily

Communities/Public Agencies Contacted/Consulted

Woodbury County

Sioux City, IA

Mid America Energy (Port Neal)



Iowa Flood Fight 2011 Mitigation Actions

As of 12 June 2011 – 1700 hrs

Monona County

Onawa, IA

Blencoe, IA

Harrison County

Desoto Bend National Wildlife Refuge

Pottawattamie County

Council Bluffs, IA

Mid America Energy (Council Bluffs, IA)

Mills County

Glenwood, IA

Pacific Junction, IA

Fremont County

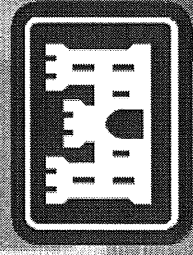
Hamburg, IA

2011 FLOOD EVENT

OMAHA DISTRICT

CONGRESSIONAL BRIEFING
SOUTH DAKOTA OPERATIONS

12 JUNE 2011



US Army Corps of Engineers
BUILDING STRONG®



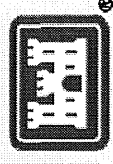
Background - How we got here

- Huge rain event last month in eastern Montana, northern Wyoming and the western Dakotas.
 - ▶ As much rain in May as this region gets in a normal year
 - ▶ 300 - 600 percent of normal
- Runoff from the rain has used up much of the storage we intended to utilize to manage the snowmelt runoff.
- Record snowpack peaked late and has only just begun to runoff into the system.
- Initial release forecasts were looking at short term, immediate changes we needed to handle the rainfall event.
- Now we've had a chance to look at the longer range forecast to determine what we need to do to manage the snowmelt runoff that is poised to come into the reservoir system



Missouri River Regulation

Basin Water Management



Current Conditions and Forecast

- ▶ Garrison Dam– forecast updated daily
 - 135,000 cfs – 12 June
 - 140,000 cfs – 13 June
 - 145,000 cfs – 15 June
 - 150,000 cfs – 17 June

- ▶ Peak releases will continue well into August

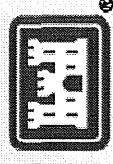


Current Conditions and Forecast

- ▶ Oahe Dam— forecast updated daily
 - 150,000 cfs – today
- ▶ Big Bend Dam – forecast updated daily
 - 150,000 cfs – today
- ▶ Ft. Randall Dam— forecast updated daily
 - 140,000 cfs –12 June
 - 145,000 cfs – 14 June
 - 147,000 cfs – 15 June
- ▶ Gavins Point – forecast updated daily
 - 145,000 cfs – 13 June
 - 150,000 cfs – 14 June
- ▶ Peak releases will continue well into August



Emergency Operations South Dakota



South Dakota

- ▶ **Public Law 84-99**
- ▶ **Flood Control and Coastal Emergencies Authority (FCCE)**
- ▶ **Protect Public Infrastructure**
- ▶ **When the flooding is done, it will be a challenge to repair the infrastructure before next flood season**



South Dakota

Timeline

- Jan 28 - minimum system storage = 56.8 MAF
- April 1 forecast - Garrison summer releases = 29 kcfs; Gavins Point summer & fall releases = 39-45 kcfs; mountain snowpack 116% and 112% of normal; canceled May spring pulse
- April 25 - Jody email to USFWS - no bird operations this year due to high water
- May 1 forecast - Garrison summer releases = 49 kcfs; Gavins Point summer releases = 57.5 kcfs; mountain snowpack = 141% and 136% of normal peak
- May 10-11 - 2.5 to 3.5 inches rain in eastern Montana
- May 20 - Press release Garrison releases to increase to 60 kcfs
- May 20-22 - 5-8 inches rain in eastern Montana, western South Dakota, and northern Wyoming
- May 23 - Press release announcing Garrison releases to 75 kcfs, Gavins Point to 75 kcfs
- May 24 - CODEL call and press release announcing Garrison releases to 85 kcfs, Gavins Point to 85 kcfs
- May 25 - 1.5 to 2 inches rain in eastern Montana
- May 25- Received a request for Technical and Direct Assistance from the State of South Dakota for the cities of Pierre and Fort Pierre.
- May 25 - USACE Omaha District technical and contracting team on the ground in Pierre and Fort Pierre
- May 26 CODEL call announces releases 110 to 120 kcfs from lower 5 reservoirs, 50 kcfs from Fort Peck
- May 27 QPF shows additional heavy rain forecast
- May 28 CODEL call announces releases to 150 kcfs from lower 5 reservoirs, 50 kcfs from Fort Peck
- May 28 - USACE Omaha District awards a construction contract for risk reduction measures under Emergency Operations for the cities of Pierre and Fort. Pierre
- May 29 - USACE Omaha District awards a modification to the construction contracts in Pierre and Fort Pierre due to the increased releases from Oahe Dam.
- May 29 - Received a request for Direct Assistance from the State of South Dakota for the city of Dakota Dunes.
- May 30-31 - 2-4 inches of rain in Montana
- May 30 First MRJIC Stakeholder call
- June 1- USACE Omaha District awards a construction contract for risk reduction measures under Emergency Operations for the city of Dakota Dunes.
- June 4 - Risk reduction measures in Pierre and Ft. Pierre are completed and turned over to the cities.
- June 11 - Risk reduction measures in Dakota Dunes are completed and turned over to the cities.



South Dakota

- ▶ Resources Deployed
 - 10.8 Million Sandbags
 - 758 Rolls of 100'x20' Plastic Sheeting
 - 4 Pumps
 - 2 Additional pumps to be deployed on Monday/Tuesday to Ft. Pierre/Pierre



South Dakota

► Pierre

2 miles of clay levees, 5.5 – 6.0 feet average levee height \$4.2 Million, Construction Completed 4 Jun 2011. The height of the levee in relation to the gage is 22'

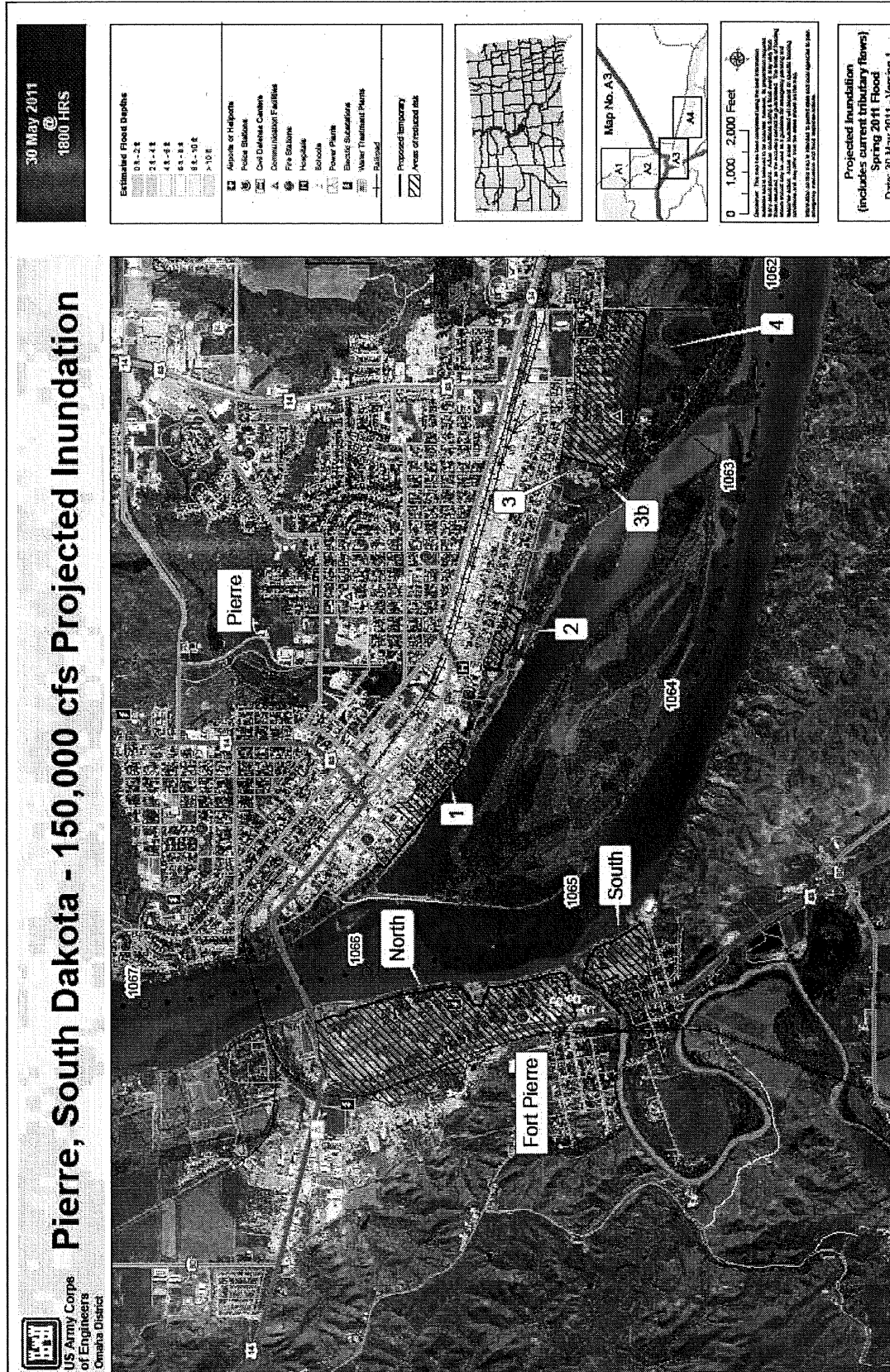
► Ft. Pierre

2 miles of clay levees, 5 feet average levee height \$5.95 million. The height of the levee in relation to the gage is 22'

Construction complete on 04 June 2011.



Pierre and Ft. Pierre Inundation Map



Pierre / Ft. Pierre, South Dakota



Pierre / Ft. Pierre, South Dakota

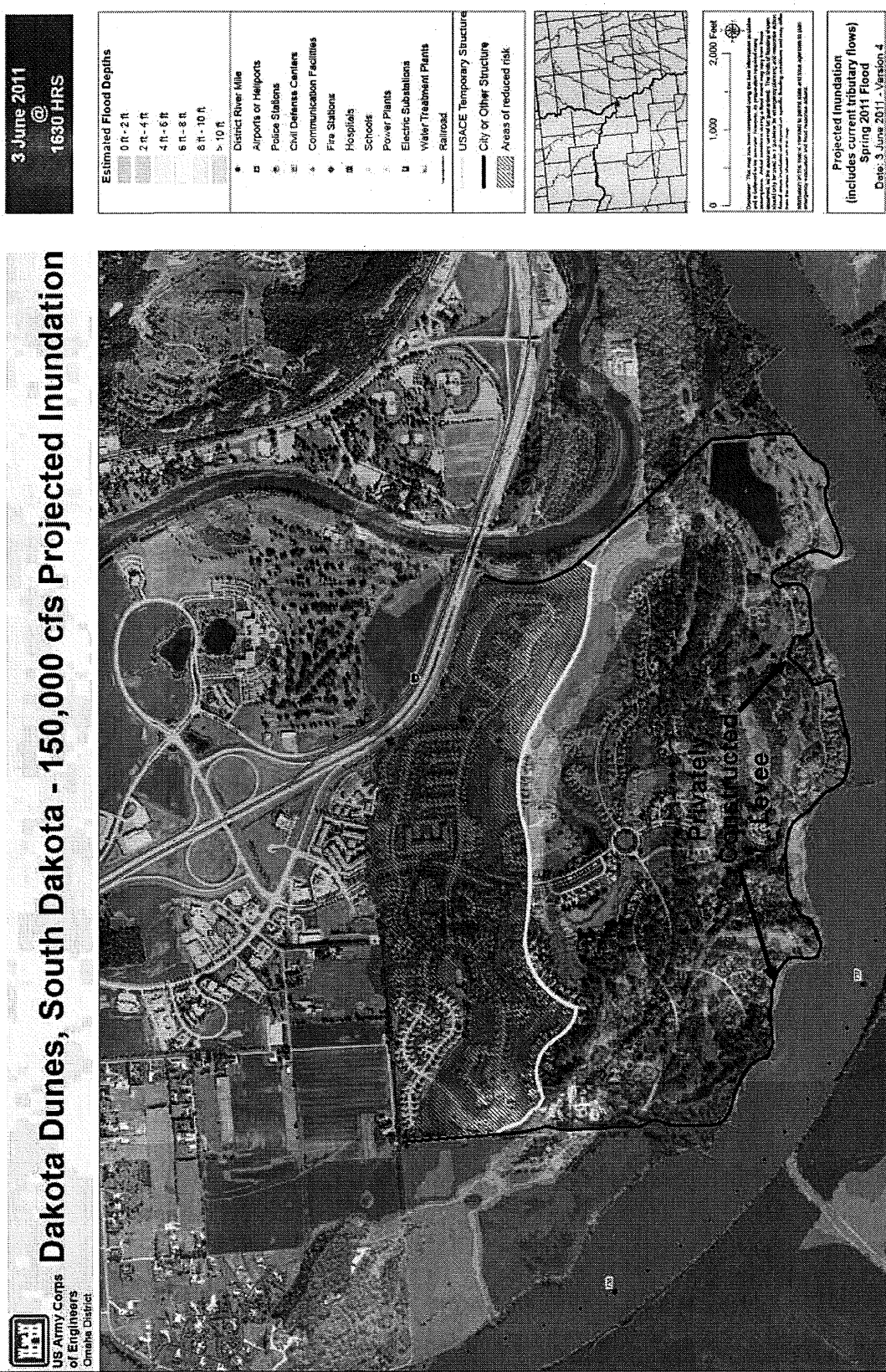


South Dakota

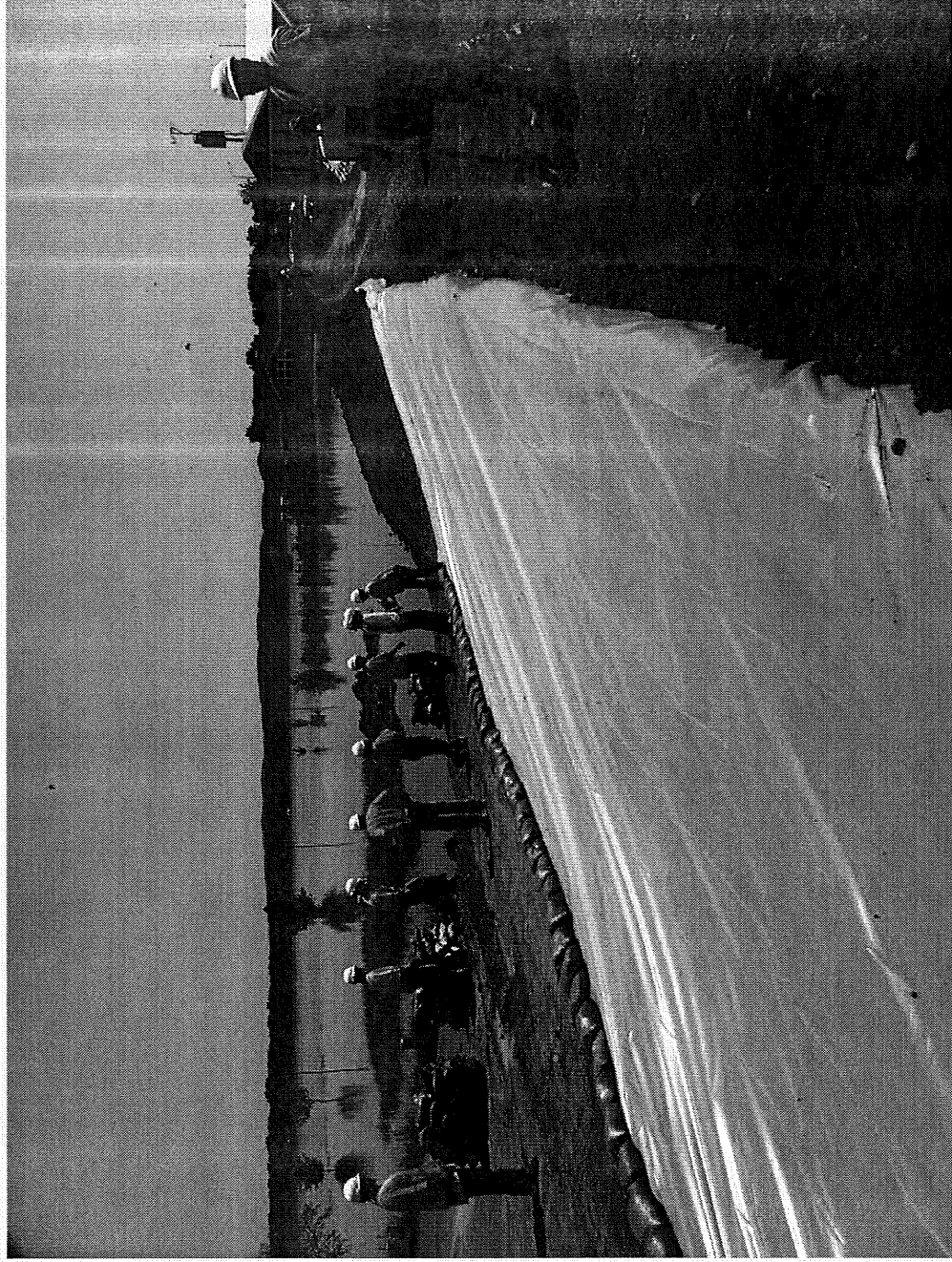
- Dakota Dunes
 - ▶ 1.5 miles of clay levees, \$1.83 million. The height of the levee in relation to the gage is 1100' (88Datum)
 - ▶ Construction complete on 11 June 2011.



Dakota Dunes Inundation Map (South Levee is a privately constructed levee)



Dakota Dunes



BUILDING STRONG®

South Dakota

■ Technical Assistance

- ▶ Clay County
 - Technical Assistance for erosions issues
- ▶ Pierre
 - Request 2 x 16" Pumps
 - ULA working this issue
- ▶ Yankton Sioux Tribe
 - Technical assistance for erosion issue
- ▶ City of Yankton
 - Technical assistance for erosion issue



South Dakota Dam Safety

- ▶ We have a vigilant dam safety program. Our dams are routinely inspected and maintained on rigid schedules and are well-prepared to handle the floodwaters.
- ▶ Our dams are routinely inspected on an annual basis and undergo an even more rigorous evaluation every five years. Our dams are evaluated for safety in accordance with the Federal Guidelines for Dam Safety originally issued in 1979 and revised in 2005.
- ▶ There is no risk of our dams being overtopped during this event. However, the water is in our exclusive flood control zone and near the top of our spillway gates. If the reservoir rises to the top of the spillway gates, we have to open the spillway gates and release water beneath the gates. The spillway gates are considerably lower than the top of the dam and are not designed to have water flowing over the top of them.



South Dakota Dam Safety

- ▶ The dams on the Upper Missouri – Fort Peck, (Montana.), Garrison Dam (N.D.), Oahe Dam, Big Bend Dam, and Fort Randall Dam (all of S.D.) and Gavins Point (S.D./Neb.) are fully functional and operating as designed.
- ▶ The system is protecting the public from unregulated flows. Unregulated flows – which occur when flood waters flow uncontrolled in a spillway -- would result in significantly more damage. There is no evidence to suggest an emergency situation at any of our dams, and all projects are operating within their design parameters.
- ▶ Our extensive instrumentation program allows us to closely monitor areas of interest such as seepage pressure and any minor movement. We've also re-evaluated seismic designs as the state of practice has evolved over recent decades



From: [REDACTED]
Sent: Monday, June 13, 2011 7:38 AM
To: [REDACTED]
Cc: Farhat, Jody S NW002
Subject: RE: Missouri River stages and associated flow releases through SD (UNCLASSIFIED)

Caveats: NONE

The USGS web site is: <http://waterdata.usgs.gov/usa/nwis/rt>.

From: [REDACTED]
Sent: Sunday, June 12, 2011 11:43 AM
To: [REDACTED]
Subject: Fw: Missouri River stages and associated flow releases through SD (UNCLASSIFIED)

From: CENWO-EOC NWO
To: Thomas, Kimberly S NWO; [REDACTED]; Phyllis F NWO; Buckley, Ryan M NWO; Brennan, Timothy J NWO; Forinan, Christopher J NWO; Williamson, Glenn J NWO
Sent: Sun Jun 12 09:37:24 2011
Subject: FW: Missouri River stages and associated flow releases through SD (UNCLASSIFIED)

Caveats: NONE

RFI #1.

Does a table exist that outlines the various river stages for the Missouri river in South Dakota and the associated flows that cause those stages. FEMA is looking for this information to be able to answer questions on the NFIP determination of the start of the flood emergency at various locations throughout South Dakota. Probably need this at all the gages along the Missouri.

RFI#2.

Table of the flows for the Missouri River in South Dakota from the time that the earliest portion gave us a concern. Once again for all the gages on the river.

Thanks,

[REDACTED]
ESF#3 TL, DR-1984-SD, Pierre JFO
[REDACTED]

Classification: UNCLASSIFIED
Caveats: NONE

Classification: UNCLASSIFIED
Caveats: NONE

From: [REDACTED]
Sent: Monday, June 13, 2011 7:35 AM
To: Farhat, Jody S NWD02
Subject: RE: Missouri River stages and associated flow releases through SD (UNCLASSIFIED)

Sent: Sun Jun 12 09:37:24 2011

Subject: FW: Missouri River stages and associated flow releases through SD (UNCLASSIFIED)

From: [REDACTED] Gary A. SWOSING

Sent: Sunday, June 12, 2011 11:37:20 AM

To: CENWO-EOC NWO

Cc: CENWD-EOC NWD

Subject: RFI: Missouri River stages and associated flow releases through SD (UNCLASSIFIED)

Auto forwarded by a Rule

Classification: UNCLASSIFIED

Caveats: NONE

Need as much of the following info as I can get by no later than 1000 CDT Monday. Let me know immediately if you can't support this request.

RFI #1.

Does a table exist that outlines the various river stages for the Missouri river in South Dakota and the associated flows that cause those stages. FEMA is looking for this information to be able to answer questions on the NFIP determination of the start of the flood emergency at various locations throughout South Dakota. Probably need this at all the gages along the Missouri.

RFI#2.

Table of the flows for the Missouri River in South Dakota from the time that the earliest portion gave us a concern. Once again for all the gages on the river.

Thanks,

[REDACTED]
ESF#3 TL, DR-1984-SD, Pierre JFO
[REDACTED]

Classification: UNCLASSIFIED

Caveats: NONE

Classification: UNCLASSIFIED

Caveats: NONE

Classification: UNCLASSIFIED

Caveats: NONE

Classification: UNCLASSIFIED

Caveats: NONE

[REDACTED] NWO

From: [REDACTED] Lisa HQ
Sent: Monday, June 13, 2011 5:22 AM
To: Farhat, Jody S NWD02
Subject: Re: South Dakota Briefing Materials (UNCLASSIFIED)

Thank you Jody.

Sent from handheld device:

[REDACTED]
Deputy Chief (Civil Works) NWD RIT
[REDACTED]
[REDACTED] (301) 367-4624

----- Original Message -----

From: Farhat, Jody S NWD02
To: [REDACTED] Lisa HQ; Stangeland, Gary A SWD@SWG
Cc: Thomas, Kimberly S NWD; [REDACTED] Anderson, G Witt NWD; McMahon, John R
BG NWD; [REDACTED] Anderson, G Witt NWD
Sent: Sun Jun 12 18:01:31 2011
Subject: RE: South Dakota Briefing Materials (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

[REDACTED]
Below is a link to an updated Water Management briefing to be used in the prep for MG
Grisoli's visit with Rep Noem.

<ftp://ftp.usace.army.mil/pub/nwd/Mo%20River%20Flood%2012%20June/>

Let me know if you have any questions,

VR,
Jody

Jody Farhat, P.E.
Chief, Missouri River Basin Water Management

[REDACTED]
[REDACTED]
Cell: 402-350-1417

-----Original Message-----

From: Ruch, Robert J COL NWO
Sent: Sunday, June 12, 2011 1:50 PM
To: [REDACTED] HQ; [REDACTED] SWD@SWG
Cc: Thomas, Kimberly S NWD; [REDACTED] NWO; Anderson, G Witt NWD; McMahon, John R
BG NWD; [REDACTED] NWO
Subject: South Dakota Briefing Materials

Lisa/Gary,

This information will serve two purposes:

1. Prep for MG Grisoli's visit with Rep Noem 2. Prep for NWO 14 June meeting with Gov SD and FEMA

Although I have been to Pierre and Dakota Dunes several times here are two dates that might be more significant:

4 June - toured Dakota Dunes w/ Representative Noem

14 June - tour Pierre/Fort Pierre and Dakota Dunes w/ Governor Daugaard and FEMA Regional Administrator Robin Finegan

Attached you will find our updated SD Operations briefing much like the one prepared for Sen Thune. Also you will find our State Fact Sheets for all states.

Jody Farhat will send additional information in short order.

V/R,

COL Bob Ruch

Commander

Omaha District, USACE


<https://www.nwo.usace.army.mil/>

Classification: UNCLASSIFIED

Caveats: NONE

Classification: UNCLASSIFIED

Caveats: NONE

NWO

RE: Missouri River Aerial Photos - Rulo to Ponca, June 12, 2011

1

From: Hofmann, Anthony J COL NWK

Sent: Sunday, June 12, 2011 8:11 PM

To: Farhat, Jody S NWD02; Goodnight, Rexford S NWA

Subject: Re: Deviation Modification for Lower Kansas Projects and Truman (UNCLASSIFIED)

Text

Colonel Tony Hofmann, PMP

Commander, Kansas City District

U.S. Army Corps of Engineers

B.B. 816-807-0129

----- Original Message -----

From: Hofmann, Anthony J COL NWK

To: Farhat, Jody S NWD02

Sent: Sun Jun 12 18:10:22 2011

Subject: Re: Deviation Modification for Lower Kansas Projects and Truman (UNCLASSIFIED)

Thanks Jody.

Need you and your folks to assess ASAP and let me know the recommended path forward and

COL H

Colonel Tony Hofmann, PMP

Commander, Kansas City District

U.S. Army Corps of Engineers

B.B. 816-807-0129

----- Original Message -----

From: Farhat, Jody S NWD02

To: Hofmann, Anthony J COL NWK; Jensen, Steven K NWK; Goodnight, Rexford G NWK; Pennaz, [REDACTED]

Names: NUK; Shumate, G B C NUK; Mahon, John R BG NWD; Anderson, G Witt NWD; Blechinger,

Erik T NWO; Tipton, Robert A Col NWD; [REDACTED] NWD

Cc: Farhat, Jody S NWD02;

Sent: Sun Jun 12 15:51:20 2011

Subject: FW: Deviation Modification for Lower Kansas Projects and Truman (UNCLASSIFIED)

Classification: UNCLASSIFIED

Caveats: NONE

COL Hofmann,

Sir, in response to an issue raised on the NWK MCT call this afternoon, I offer the following

My office has been coordinating with the NWK Water Management office regarding evacuation of the tributary reservoirs prior to peak stages reaching the Kansas City area. On May 29th we received the attached deviation request, which was approved via email almost immediately and followed by a formal letter on May 31. When we learned last weekend that the district was cutting back releases from Milford and other tributary reservoirs in response to the increasing flows on the Missouri River, [REDACTED] sent the email below to [REDACTED] suggesting that the District continue to evacuate storage until the stages at Kansas City

and/or Waverly reach the lower end of the published stage range with 150,000 cfs release from Gavins. Apparently this was discussed within NWK and the decision was made to reduce outflows to minimum release requirements.

It is still my position that the tributary reservoirs should be evacuated prior to peak stages being reached in the reach below Kansas City. Personally, I believe that the 29 May deviation request was sufficient to allow continued evacuation, but if the district would like to request a more specific deviation request, I would certainly approve it immediately.

The daily bulletin indicates 200,000 acre-feet of water remains to be evacuated from Milford. Based on discussions with Hydrologic Engineering in the Omaha District, they expect it will take a week or more for all the overbank storage between Gavins Point and Omaha to fill. Extend that philosophy to the reach from Omaha to Kansas City, and it appears there are several weeks remaining before peak stages from the 150,000 cfs release reach Kansas City.

I strongly encourage Kansas City District to resume evacuation of all tributary storage unless local conditions dictate another strategy.

VR,
Jody

-----Original Message-----

From: [REDACTED]
Sent: Sunday, June 12, 2011 4:12 PM
To: Farhat, Jody S NWD02
Subject: FW: Deviation Modification for Lower Kansas Projects and Truman (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

[REDACTED]

The attached is the deviation we approved. Below is what I sent to [REDACTED] last Sunday. When I spoke with him last Monday he had indicated that he had spoken with Rex Goodnight and that they had decided to stick with their original plan.

[REDACTED]

[REDACTED]
Reservoir Regulation Team Lead
Missouri River Basin Water Management,
Northwestern Division, USACE

[REDACTED]
[REDACTED] (fax)

-----Original Message-----

From: [REDACTED]
Sent: Sunday, June 05, 2011 6:00 PM
To: [REDACTED]
Subject: Deviation Modification for Lower Kansas Projects and Truman (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

[REDACTED]

Just throwing some words out here for you to consider.

Reference attached deviation request from May 29, 2011 - Deviation Request from Missouri River Control Points).

The extreme and historical releases being made from Gavins Point are directly related to the reservoir conditions at the upper mainstem projects. All three upper projects are currently well into their exclusive flood control pools and are expected to remain in those zones, at least until August, and perhaps later. Currently, Fort Peck is in its surcharge zone and Garrison is within inches of being in its surcharge zone.

Given the extreme flooding conditions in the mainstem system, it is necessary that tributary reservoir regulation also be considered in order to maintain proper risk management. Attached is a planning tool, which outlines a likely range of flows of stages with a Gavins Point release of 150 kcfs, that was collaboratively developed by MRBWM, NWO, NWK and the MBRFC (National Weather Service). This planning tool is being used to assist with risk reduction measures along the Missouri River from Gavins Point to the mouth.

<http://www.nwo.usace.army.mil/html/op-e/maps/WaterMgt/Below%20Gavins%20-%20Range%20of%20Flows%20and%20Stages%20-%20Final.pdf>

Kansas City - 220 kcfs to 350 kcfs (30 ft to 39 ft) Waverly - 230 kcfs to 370 kcfs (27 ft to 31 ft) Boonville - 260 kcfs to 420 kcfs (27 ft to 33 ft) Hermann - 300 kcfs to 470 kcfs (27 ft to 33 ft)

Then reference the Corps' FUI stage forecast for the next 2 weeks:
<http://www.nwd-mr.usace.army.mil/rcc/reports/internal/showrep.cgi?3STAG1>

Since the NWS forecast only goes out 5 days, it isn't going to assist with this due to travel time from the projects to each of the Missouri River stations. We could use our FUI forecast or the NWS does produce a monthly forecast every Wednesday. Might be able to get them to produce it Monday and Friday also.


For the next 2 weeks the Missouri River stations, per this morning's FUI:
... Kansas City (MKCF) stage forecast does not exceed 28 feet.
... Waverly (WVMF) stage forecast does not exceed 26 feet.
... Boonville (BNMF) stage forecast does not exceed 24 feet.
... Hermann (HEMF) stage forecast does not exceed 23.5 feet.

Since all stations are below their respective lower end of the likely range, then releases from flood control storage zones can be made in such a manner that the total flood control release does not exceed the lower stage level. In this case, it would be Waverly (26 feet to 27 feet) that would be the adjusted control point. Per the latest rating curve, there's about an 18 kcfs difference between 26 and 27 feet at Waverly. Or we could use flows. Doesn't matter - 6 of one, half dozen of the other. However, it seems that the stage is driving factor, not the flow.

How flood control storage releases are made should be based on each project's current level of flood control storage as well as downstream constraints, such as Milford and Tuttle Creek. However, 3 weeks from now, it may be a different project. We'll have to work out how we're going to monitor/adjust through the period ... revisit every few days or after a major precipitation event ... it'll be tricky due to the travel time.

Talk to you at 8:30.

Reservoir Regulation Team Lead
Missouri River Basin Water Management,
Northwestern Division, USACE



Classification: UNCLASSIFIED
Caveats: NONE

Classification: UNCLASSIFIED
Caveats: NONE

Classification: UNCLASSIFIED
Caveats: NONE

[REDACTED] NWO

From: Farhat, Jody S NWD02
Sent: Sunday, June 12, 2011 7:32 PM
To: Anderson, G Witt NWD; [REDACTED] NWD
Cc: [REDACTED]; McMahon, John R BG NWD; Tipton, Robert A Col NWD; [REDACTED]
[REDACTED] Farhat, Jody S NWD02
Subject: RE: North Dakota Legislative Assembly (UNCLASSIFIED)
Attachments: RFI.PDF; ND Rep Porter.docx

Classification: UNCLASSIFIED
Caveats: NONE

Sir - my draft response to this correspondence and a pdf of the incoming is attached for your review. I did not provide a response to question 4 since that appears to be a legal FOIA issue.

The incoming was addressed to COL Ruch; I assumed BG McMahon would sign the response, but that can easily be changed as you see fit.

VR,
Jody

-----Original Message-----

From: Anderson, G Witt NWD
Sent: Friday, June 10, 2011 7:28 PM
To: [REDACTED] Farhat, Jody S NWD02
Cc: [REDACTED]; McMahon, John R BG NWD; Tipton, Robert A Col NWD; Ruch, Robert J COL NWO
Subject: Re: North Dakota Legislative Assembly (UNCLASSIFIED)

Thanks, Jody got the assignment earlier today. Will coordinate it with appropriate folks.

We're working it here. Will coordinate it with appropriate folks.

Witt

Message sent via my BlackBerry Wireless Device

----- Original Message -----

From: [REDACTED]
To: Farhat, Jody S NWD02
Cc: [REDACTED]; McMahon, John R BG NWD; Anderson, G Witt NWD; Tipton, Robert A Col NWD; Ruch, Robert J COL NWO
Sent: Fri Jun 10 17:03:27 2011
Subject: RE: North Dakota Legislative Assembly (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Jody,

In case Witt did not get this to you yet. Please prepare a response by next Tuesday and discuss with Christina on the document request. Since it is a state representative, Witt could sign it or send it up here.

[REDACTED]
[REDACTED]
Director Regional Business
Northwestern Division, USACE
[REDACTED]
[REDACTED] 703-5465

-----Original Message-----

From: Tipton, Robert A Col NWD
Sent: Friday, June 10, 2011 4:19 PM
To: [REDACTED] Anderson, G Witt NWD
Cc: [REDACTED] McMahon, John R BG NWD
Subject: Re: North Dakota Legislative Assembly (UNCLASSIFIED)

Roger - I recommend we have Jody and Christina work this. Not sure if we need BG McMahon's signature or not - I can probably sign as acting if we think we need the Division signature vs. District.

I think we need to get a response out by Tuesday at the latest - preferably Monday. I don't think we have any documents that discuss holding back releases as we did not hold back releases at Gavin's Point.

Message sent via my BlackBerry Wireless Device

----- Original Message -----

From: [REDACTED]
To: Anderson, G Witt NWD
Cc: [REDACTED] NWD; Tipton, Robert A Col NWD
Sent: Fri Jun 10 15:29:06 2011
Subject: FW: North Dakota Legislative Assembly (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Witt,

Are you going to handle this from your location or do you want me to coordinate it? COL Ruch was looking for a suspense from Division to move it from his plate to ours. I believe M1 will want to sign the response but not sure of his return.

Thoughts?

[REDACTED]
[REDACTED]
Director Regional Business
Northwestern Division, USACE
[REDACTED] 703-5465

[REDACTED]
-----Original Message-----

From: Ruch, Robert J COL NWO

Sent: Friday, June 10, 2011 3:03 PM

To: [REDACTED]

Subject: FW: North Dakota Legislative Assembly (UNCLASSIFIED)

As promised!

-----Original Message-----

From: Ruch, Robert J COL NWO

Sent: Friday, June 10, 2011 11:56 AM

To: McMahon, John R BG NWD

Cc: [REDACTED] NWO; Blechinger, Erik

T NWO; Farhat, Jody S NWD02; Anderson, G Witt NWD; [REDACTED]

NWO; [REDACTED] NWD

Subject: North Dakota Legislative Assembly (UNCLASSIFIED)

Sir,

Attached is a request for information from the ND Legislative Assembly addressed to me. Frankly, I think most of the questions are really RCC answers and are quite easily answered. Bullets 1,2,3,5 could be answered in very short order. I leave bullet 4 to the attorneys to advise on but I believe an official FOIA request is required. Either way we should begin to gather that information.

As these questions are really RCC related do you want the District to reply or the Division? I think a prompt reply by early next week is advisable.

V/R,

COL Bob Ruch

Commander

Omaha District, USACE

(402) 995-2001

<https://www.nwo.usace.army.mil/>

-----Original Message-----

From: [REDACTED]

Sent: Friday, June 10, 2011 10:48 AM

To: Ruch, Robert J COL NWO; [REDACTED]

Cc: [REDACTED]; [REDACTED]; [REDACTED]

Subject: North Dakota Legislative Assembly (UNCLASSIFIED)

Classification: UNCLASSIFIED

Caveats: NONE

Sir,

During the City update today Congressman Rick Berg presented me with the attached RFI regarding current Missouri River flooding. He wanted me to follow up on how long it would

take to get a response to the RFI, I responded that I would contact you and provide a suspense. Also the Mayor of Bismarck turned over the facilitator responsibilities of the daily meeting to the Bismarck EOC Director. Therefore future USACE presence at the daily meeting is not required. However I did explain to the Director that we would be available if any questions or issues came about. Subject to your approval I will discontinue presenting at the City meeting and provide the City with daily input.

V/r [REDACTED]

[REDACTED]
Disaster Program Manager
HQ-USACE Contingency Operations Directorate
[REDACTED]
Washington, DC 20314
[REDACTED]
[REDACTED]
[REDACTED]

Classification: UNCLASSIFIED
Caveats: NONE

Classification: UNCLASSIFIED
Caveats: NONE

Classification: UNCLASSIFIED
Caveats: NONE

Classification: UNCLASSIFIED
Caveats: NONE



HOUSE OF REPRESENTATIVES
**NORTH DAKOTA
LEGISLATIVE ASSEMBLY**



REPRESENTATIVE
TODD PORTER
District 34
4604 Borden Harbor Drive SE
Mandan, ND 58554-7961
tkporter@nd.gov

STATE CAPITOL
600 EAST BOULEVARD
BISMARCK, ND 58505-0360

COMMITTEES:
Human Services
Natural Resources, Chairman

June 9, 2011

Colonel Robert Ruch
Commander
Omaha District, Northwestern Division
United States Army Corps of Engineers
1616 Capitol Avenue, Suite 365
Omaha, NE 68102-4901

Dear Colonel Ruch:

This letter is a request for information relating to the current Missouri River flooding in Mandan/Bismarck, North Dakota. Specifically, I would like the following information:

- Why did the United States Army Corps of Engineers stop releasing water at an increased rate around the middle of March 2011 and not increase releases from the Garrison Dam until May 6th 2011, especially given the fact that the reservoir was full and the snow pack was at least 140% of normal?
- What role, if any, did the snowpack in the upper portion of the Missouri River Basin play in the management of the water releases from the Garrison Dam?
- Given the fact that the reservoir system was full in 2010, why weren't the releases timed to prevent the catastrophic event that we are currently experiencing?
- Please provide any records regarding the decision to delay Garrison Dam releases and any internal memos/emails discussing the decisions to delay the releases and slow the releases in 2011.
- What part did the nesting season of the piping plover play in any water management decisions?

Thank you for your responses to this inquiry.

Sincerely,

Todd Porter
State Representative

Cc: Senator John Hoeven
Senator Kent Conrad
Congressman Rick Berg

[REDACTED] NWO

From: [REDACTED] NWD
Sent: Sunday, June 12, 2011 6:31 PM
To: [REDACTED] NWK; Thomas, Kimberly S NWO; [REDACTED] NWD
Cc: Blechinger, Erik T NWO; Anderson, G Witt NWD; Ruch, Robert J COL NWO; [REDACTED] H NWO; Ruch, Robert J COL NWO; [REDACTED] NWK; Hofmann, Anthony J COL NWK; Farhat, Jody S NWD02
Subject: Updated Master Manual Talking Points (UNCLASSIFIED)
Attachments: Master Manual TPs.docx

Classification: UNCLASSIFIED

Caveats: NONE

[REDACTED] Kim & [REDACTED]

Slightly modified Master Manual talking points as we've refined our messages a bit.

[REDACTED]
[REDACTED]
Attorney/Advisor, U.S. Army Corps of Engineers Office of Counsel, Northwestern Division,
Portland OR [REDACTED] (Attorney Client and/or Attorney Work Product-- DO NOT RELEASE UNDER
FOIA OR OUTSIDE USACE)

Classification: UNCLASSIFIED

Caveats: NONE

UPDATED: Master Manual and General Reservoir Ops Talking Points:

The Missouri River Main Stem Reservoir System, which includes 6 dams, is operated in accordance with the Master Manual. The Master Manual is a water control plan that helps guide how much water should be released, when, and for how long from the 6 reservoirs for the benefit of the entire Missouri River basin. The Master Manual hydrology (runoff volume, timing, shape of watersheds, etc) is based on over 100 years of historical runoff records (1898-2004).

The Corps revised the Master Manual in 2004 following a 14-year period of public involvement to balance all the competing uses for the Missouri River. Hundreds of alternatives were analyzed and considered during this process. The current Master Manual reflects the input from the public and Tribes throughout the entire Basin on how the reservoirs could best be operated to serve all the purposes for which they were authorized and constructed.

The reservoir system is designed to capture spring and summer runoff to provide flood risk reduction, and then allows the Corps to manage releases throughout the year to accommodate the other 7 authorized purposes: navigation, irrigation, water supply, hydropower, fish and wildlife, recreation, and water quality.

Each year an annual operating plan is developed to make necessary adjustments to our reservoir operations based on current and projected annual conditions, such as: amount of water received the previous year, rainfall events, plains snow pack, and mountain snow pack. This annual plan is circulated every fall and public meetings are held through the Missouri River Basin to gain inputs from the public and Tribes.

The actual operation of the System is reviewed and, if required, adjusted on a daily basis depending on current and forecasted conditions.

Answers to frequently asked Master Manual Questions:

Were releases held back earlier in the season to protect nesting least terns and piping plovers?

Answer: No operational decisions this year were driven by the needs of fish and wildlife or the Endangered Species Act – we have been operating solely for flood risk reduction. In fact, the Master Manual provides for a Spring Pulse to aid Endangered Species, which is an increase in flows during March and May, that we did not implement in 2011 because flows were already above normal and because the risk to potential flooding downstream of Gavins Point. Summer adjustments to operations to minimize flooding of protected tern and plover eggs and chicks did not take place this year due to high flow conditions.

Will this change the way the reservoir system is operated in future years?

Answer: The reservoir system has been operated in accordance with the Master Manual. However, 2011 will be a new data point in the history of the Missouri River Basin, both in terms of hydrology and flood plain impacts, so this event will certainly be studied in the future. The Corps will conduct an extensive review following the flooding this year to assess the operation, its effects, and learn where improvements or adjustments might be warranted. Whether or not future studies lead to changes in the operation of the reservoir system or land use policies remains to be seen.

Prepared by: MRJIC, Updated 12 June 2011

Approved by: Erik Blechinger/Jody Farhat

From: [REDACTED]
Sent: Sunday, June 12, 2011 6:26 PM
To: Farhat, Jody S NWD02
Subject: News Release: Corps asks visitors to be safe at Fort Peck Lake and Spillway

Fort Peck, Mont. - The U. S. Army Corps of Engineers today issued a boating advisory for all vessels on Fort Peck Lake. This advisory is due to the large amount of debris floating free from the shoreline as lake elevations increase as well as that coming into Fort Peck Lake from rivers flowing into the lake.

"There is a large amount of woody debris floating down the rivers," said Deputy Operations Project Manager Darin McMurry. "When they empty into Lake Peck, all that debris comes in, too. A lot is floating low in the water, making a dangerous situation for boaters."

Boaters need to use extreme caution and be on the lookout for floating logs and other debris on the lake. This debris could appear at any location on the lake and could be submerged. All vessels on the lake should be operated at reduced speeds and operators should be vigilant about watching for debris. Life jackets should be worn by all persons in the vessel, including the operator.

The high water levels also are creating hazardous conditions for boaters near the Fort Peck spillway, McMurry said. "The warning buoys have been moved farther out from the spillway due to the increased current associated with the spillway releases. It's a dangerous place to be and we ask boaters to respect this warning and stay out of the restricted area between the spillway and the buoy line."

While the Corps recognizes that the record releases flowing through the spillway are bringing large number of visitors to Fort Peck Dam and Lake, the public must remain in authorized viewing areas. "We realize how unprecedented these flows are and know the public wants to see them, but areas along the spillway chute are not safe at this time for unauthorized visitors," McMurry said. "We are working on a way to safely allow the public to view the plunge pool, but until we do, visitors must remain in authorized areas upstream of the spillway and on the road overlooking the spillway."

Because releases of this magnitude have never been experienced, the Corps must be sure the public will remain safe as they view the water rushing past the spillway, McMurry added.

This boating advisory is issued under the authority of 33 CFR Part 327.12a. It is a precautionary restriction and notice relating to safety for the protection of life and property. It is not a prohibition on the use of vessels on Fort Peck Lake.

Heavy rain and melting of historic levels of snowpack over the Northwestern Division area have raised water levels of rivers and reservoirs. Portions of Montana received nearly a year's worth of rain last month, nearly filling the reservoirs.

For general questions regarding Missouri River flood response information, please call (402) 996-3877 or email the joint information center at MRJIC@usace.army.mil

Please follow us on Facebook (www.facebook.com/OmahaUSACE), (www.facebook.com/OperationMightyMo), Twitter (www.twitter.com/OmahaUSACE), YouTube (www.youtube.com), and FLICKR (www.flickr.com) for the latest updates regarding our flood response operations.

You can also find flood inundation maps and local emergency management contact information on or social media sites and at <http://www.nwo.usace.army.mil>. View daily and forecasted reservoir and river information on the Water Management section of the Northwestern Division homepage at <http://nwd-mr.usace.army.mil/rcc>.

-END-

If you would rather not receive future communications from U.S. Army Corps of Engineers, please go to <http://USACEARMY.pr-optout.com/OptOut.aspx?520028x24691x317909x3x1875308x24000x6&Email=jody.s.farhat%40usace.army.mil>.

U.S. Army Corps of Engineers, 1616 Capitol Ave Attn: CENWO-PA, Omaha, NE 68102 United States

NWO

From: Farhat, Jody S NWD02
Sent: Tuesday, June 14, 2011 2:09 PM
To: [REDACTED] NWD; Farmer, Monique L NWO
Cc: Blechinger, Erik T NWO
Subject: FW: Request for USACE representative for Teletown Hall tomorrow evening at 8:15 ET (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

I offer to call in on this with COL Hofmann tomorrow. Just want to make sure you don't have any concerns regarding this type of forum.

Jody

-----Original Message-----

From: Hofmann, Anthony J COL NWK
Sent: Tuesday, June 14, 2011 1:59 PM
To: Farhat, Jody S NWD02
Cc: Blair, Amy E NWK
Subject: FW: Request for USACE representative for Teletown Hall tomorrow evening at 8:15 ET (UNCLASSIFIED)

Jody-
Received your earlier email.
Not a requirement, but certainly would not hurt to have your expertise if you are game.
COL H

Building Strong!

Colonel Anthony J. Hofmann, PMP
Commander, Kansas City District
U.S. Army Corps of Engineers

Office: (816) 389-3202
Fax: (816) 389-2027
<http://www.nwk.usace.army.mil/>

-----Original Message-----

From: [REDACTED] NWK
Sent: Tuesday, June 14, 2011 12:55 PM
To: Hofmann, Anthony J COL NWK
Subject: FW: Request for USACE representative for Teletown Hall tomorrow evening at 8:15 ET (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Here's the Details:

Rep. Jenkins and Gov. Brownback will act as moderators during the call. The purpose of the call is for residents of Northeast Kansas to have a forum to ask questions of USACE, FEMA, and relevant state agencies to educate them. Since that is the case, we are hoping that at the beginning of the call after a brief introductory remarks from the Congresswoman and Governor, USACE and FEMA representatives will each give a very brief outline of the situation and an update of where everything stands. The remainder of the call will be dedicated to question and answer time. We imagine that most questions will be directed towards Col. Hoffman, the FEMA representatives, and the state agencies.

Since you are familiar with the teletown format, you know that our office will be screening calls to ensure both quality and variety. Rep. Jenkins and Gov. Brownback will be on the call the entire time to act as moderators.

v/r,

[REDACTED]
Office Phone: [REDACTED]
Office Fax: (816) [REDACTED] 7
Cell Phone: (816) [REDACTED] 10
Website: <http://www.usace.army.mil>

-----Original Message-----

From: Hofmann, Anthony J COL NWK
Sent: Tuesday, June 14, 2011 12:53 PM
To: [REDACTED] NWK
Cc: Blair, Amy E NWK; [REDACTED] NWK
Subject: RE: Request for USACE representative for Teletown Hall tomorrow evening at 8:15 ET (UNCLASSIFIED)

Larry-

I'll be back in KC for hydropower conf as this is important for long-term viability of hydro program.

I can't speak to [REDACTED] availability; recommend he and I call in from the EOC at 1915. May be some folks ([REDACTED]) already around as I would imagine some discussion on Kansas lakes and releases will be discussed.

COL H

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Commander, Kansas City District
U.S. Army Corps of Engineers

Office: (816) 389-3202
Fax: (816) 389-2027
<http://www.nwk.usace.army.mil/>

-----Original Message-----

From: [REDACTED] NWK
Sent: Tuesday, June 14, 2011 12:38 PM
To: Hofmann, Anthony J COL NWK

Subject: FW: Request for USACE representative for Teletown Hall tomorrow evening at 8:15 ET (UNCLASSIFIED)

Importance: High

Classification: UNCLASSIFIED

Caveats: NONE

Sir,

Congresswoman Jenkins office has ask that we participate in a joint teletown hall with KS Governor Sam Brownback on Wed (tomorrow) evening at 2015 EDT (1915 CDT) for one hour. FEMA has also been asked to participate. No particular topics at this time, however, the topic of discussions is flooding of the lower Missouri River and affected areas in Northeast Kansas.

I gave Amy a tentative at this point as they have asked for a representative and possibly COL Hofmann. Jud has concurred to be on the call.

v/r,

[REDACTED]
Office Phone: [REDACTED]
Office Fax: [REDACTED]
Cell Phone: [REDACTED] 312 5740
Website: <http://www.usace.army.mil>

-----Original Message-----

From: Blair, Amy E NWK

Sent: Tuesday, June 14, 2011 11:20 AM

To: [REDACTED] NWK; [REDACTED] NWK

Cc: [REDACTED] NWK; [REDACTED] NWK; [REDACTED] NWK

Subject: FW: Request for USACE representative for Teletown Hall tomorrow evening at 8:15 ET (UNCLASSIFIED)

Classification: UNCLASSIFIED

Caveats: NONE

This is a request for COL H to participate in Congresswoman Jenkins and Governor Brownback's joint teletown hall.

This is essentially a phone call that is structured beyond a conference call. Is this something COL H could do?

From: Brainard, Colin [<mailto:Colin.Brainard@mail.house.gov>]

Sent: Tuesday, June 14, 2011 11:04 AM

To: Blair, Amy E NWK

Cc: Leopold, Pat; Calderon, Kathy

Subject: Request for USACE representative for Teletown Hall tomorrow evening at 8:15 ET

Amy,

Thank you again for Col. Hoffman's participation in last Friday's windshield tour of the lower Missouri River communities with Rep. Jenkins and Rep. Graves.

I want to inform you that Congresswoman Jenkins and Governor Brownback will be hosting a teletown hall tomorrow evening from 8:15 p.m. ET for approximately one hour regarding flooding of the lower Missouri River and affected areas in Northeast Kansas.

We would like to invite a representative of the USACE Kansas City District to participate in the call and answer questions if needed. We also plan on inviting representatives from FEMA to answer questions about possible disaster assistance and NFIP.

Please let us know if Col. Hoffman or another Corps representative can participate. Thank you in advance.

Colin C. Brainard
Legislative Assistant
Rep. Lynn Jenkins, CPA

Classification: UNCLASSIFIED
Caveats: NONE

Classification: UNCLASSIFIED
Caveats: NONE

Classification: UNCLASSIFIED
Caveats: NONE

Classification: UNCLASSIFIED
Caveats: NONE

NWO

From: Farhat, Jody S NWD02
Sent: Tuesday, June 14, 2011 6:08 PM
To: Hofmann, Anthony J COL NWK
Cc: Blair, Amy E NWK
Subject: RE: Request for USACE representative for Teletown Hall tomorrow evening at 8:15 ET (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

I'd be happy to participate. I'll work with Amy to get all the details.

Jody

-----Original Message-----

From: Hofmann, Anthony J COL NWK
Sent: Tuesday, June 14, 2011 1:59 PM
To: Farhat, Jody S NWD02
Cc: Blair, Amy E NWK
Subject: FW: Request for USACE representative for Teletown Hall tomorrow evening at 8:15 ET (UNCLASSIFIED)

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v/r,

[REDACTED]
Office Phone: [REDACTED]
Office Fax: [REDACTED]
Cell Phone: [REDACTED]
Website: <http://www.usace.army.mil>

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I gave Amy a tentative at this point as they have asked for a representative and possibly COL Hofmann. Jud has concurred to be on the call.

v/r,

[REDACTED]
Office Phone: ([REDACTED])
Office Fax: ([REDACTED])
Cell Phone: ([REDACTED])
Website: <http://www.usace.army.mil>

-----Original Message-----

From: Blair, Amy E NWK

Sent: Tuesday, June 14, 2011 11:20 AM

To: [REDACTED] NWK; [REDACTED] NWK

Cc: [REDACTED] NWK; [REDACTED] NWK; [REDACTED] NWK

Subject: FW: Request for USACE representative for Teletown Hall tomorrow evening at 8:15 ET (UNCLASSIFIED)

Classification: UNCLASSIFIED

Caveats: NONE

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Colin C. Brainard
Legislative Assistant
Rep. Lynn Jenkins, CPA

Classification: UNCLASSIFIED
Caveats: NONE

Classification: UNCLASSIFIED
Caveats: NONE

Classification: UNCLASSIFIED
Caveats: NONE

Classification: UNCLASSIFIED
Caveats: NONE

[REDACTED] NWO

From: Farhat, Jody S NWD02
Sent: Tuesday, June 14, 2011 6:09 PM
To: [REDACTED] NWO
Subject: RE: North Platte and South Platte snowpack (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Thanks [REDACTED] this is great, and your snow is coming down nicely!

Jody

-----Original Message-----

From: [REDACTED] NWO
Sent: Tuesday, June 14, 2011 4:12 PM
To: Farhat, Jody S NWD02; [REDACTED] NWO; [REDACTED] NWO
Cc: [REDACTED] NWD02; [REDACTED] NWO; [REDACTED] NWO; [REDACTED] NWO; [REDACTED] NWO
Subject: North Platte and South Platte snowpack (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Jody -

The North Platte and South Platte snowpack report is attached.

Let me know if you need further information about the snow we are monitoring in the Platte basin.

Thanks,
[REDACTED]

[REDACTED]
[REDACTED], Water Control and Water Quality Section
[REDACTED]

Classification: UNCLASSIFIED
Caveats: NONE

Classification: UNCLASSIFIED
Caveats: NONE

NWO

From: Farhat, Jody S NWD02
Sent: Tuesday, June 14, 2011 6:14 PM
To: Church, Clayton A SWF; Johnston, Paul T HQ@ NWO
Cc: [REDACTED] HQ02, [REDACTED] NWD02
Subject: RE: Rain impacting discharges from Garrison (UNCLASSIFIED)

Classification: UNCLASSIFIED

Caveats: NONE

Clayton, I wasn't on the call but the release schedule has not changed, therefore I assume the additional flow through Bismarck will be coming from the tributaries between Garrison dam and the Bismarck area. The Knife River comes in just downstream of Garrison and the Heart River comes in on the south side of Mandan. In addition there are other smaller tributaries that will be contributing flow due to rain in the local area.

Regards,
Jody

-----Original Message-----

From: Church, Clayton A SWF
Sent: Tuesday, June 14, 2011 4:00 PM
To: Johnston, Paul T HQ@ NWO; Farhat, Jody S NWD02
Cc: Clark, Mark D HQ02
Subject: Rain impacting discharges from Garrison (UNCLASSIFIED)

Classification: UNCLASSIFIED

Caveats: NONE

Paul/Jody:

I was on the 3:30 call this afternoon with the county representatives and wanted to ensure I was taking down numbers correctly from what Mike was reporting from the RCC. Due to rain on top of the Garrison discharges we are expecting 164,000 through Bismarck for the next seven days and looking at the discharges carefully from Garrison due to the inflows to Oahe. Does this mean a possible increase in discharge above 150,000 on Friday? Folks here in the EOC were questioning the numbers and what they heard also. Thanks.

-Clay
682-429-7662

Classification: UNCLASSIFIED

Caveats: NONE

Classification: UNCLASSIFIED

Caveats: NONE

NWO

From: Farhat, Jody S NWD02
Sent: Tuesday, June 14, 2011 6:18 PM
To: Charlie_Scott@fws.gov
Subject: RE: simple description on CE website of MO River flood operations (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Charlie, we've posted a flood briefing on the front page of our web site that may be useful, otherwise I would refer you to the Master Manual Section 7-04 for a discussion of flood control regulation.

In case you don't have them, the links are below:

Thanks,
Jody

<http://www.nwd-mr.usace.army.mil/rcc/>

<http://www.nwd-mr.usace.army.mil/rcc/reports/mmanual/MasterManual.pdf>

-----Original Message-----

From: [Charlie Scott@fws.gov](mailto:Charlie_Scott@fws.gov) [mailto:Charlie_Scott@fws.gov]
Sent: Tuesday, June 14, 2011 3:47 PM
To: Farhat, Jody S NWD02
Subject: simple description on CE website of MO River flood operations

Jody,

I had a request within FWS for general description of water control/flood operations - was there anything on CE website. I did some checking on NW Div. website and found all the sites relating to AOP, Project Orders, Standing Orders, and Master Manual (although I did not see a specific webpage for the MM but I could download the MM). Is there a short, succinct summary somewhere on CE website I can direct folks? Just checking
- no big priority with all the stuff you all have happening now. If you have a link you could email me that would be fine. Thanks.

Charlie

Classification: UNCLASSIFIED
Caveats: NONE

[REDACTED] NWO

From: Farhat, Jody S NWD02
Sent: Tuesday, June 14, 2011 6:24 PM
To: [REDACTED] NWO
Subject: RE: Flood Report #12 Fort Peck (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Good report, [REDACTED] Thanks. Hang in there - you're doing a great job!

Jody

-----Original Message-----

From: Daggett, John E NWO
Sent: Tuesday, June 14, 2011 2:42 PM
To: [REDACTED] NWO; Thomas, Kimberly S NWO; [REDACTED] NWO; [REDACTED] NWO; [REDACTED] NWO; [REDACTED] NWO; Bertino, John J Jr NWO
Cc: Farhat, Jody S NWD02; [REDACTED] NWO; [REDACTED] NWO; [REDACTED] NWO
Subject: Flood Report #12 Fort Peck (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

All: Releases from Fort Peck Dam continue at 65,000 cfs with 13,000 cfs through the power plants and 52,000 cfs through the spillway. Fort Peck pool elevation was at 2252.18 at 0700 today.

We continue to monitor the spillway stilling basin erosion. The left side of the channel below the spillway is eroding more downstream, which seems to be improving the flow.

Twenty-four hour surveillance continues on the dam and spillway. No issues were noted in the last twenty-four hours.

Work on the temporary overhead line by Western Area Power Administration and Project staff to restore primary power to the spillway is still in progress. We are awaiting electrical supplies to complete.

[REDACTED] is working with Fort Peck Tribes today.

[REDACTED] Structural Engineer from Seattle District is on the Project today.

[REDACTED]
U.S. Army Corps of Engineers
[REDACTED]
Fort Peck Project
Fort Peck, Montana 59223
PH: [REDACTED]

Classification: UNCLASSIFIED
Caveats: NONE

NWO

From: Farhat, Jody S NWD02
Sent: Tuesday, June 14, 2011 6:38 PM
To: Hofmann, Anthony J COL NWK
Subject: RE: Request for USACE representative for Teletown Hall tomorrow evening at 8:15 ET (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Sir,

Below is a link to the NWO website where they list historic crests for a variety of flood events including 1993. The primary reason for not comparing this flood event to previous events is that it really depends where you are. 1993 was a non-event upstream of Gavins Point. We were coming out of a severe drought and were able to shut off releases from the mainstem reservoir system and refill all the reservoirs. Releases during 1993 from Gavins were as low as 6,000 cfs.

In the reach from Gavins Point to the Platte River in Nebraska, this year will be considerably higher than 1993 for the reason stated above.

From Nebraska City to St. Joe, this year will likely be in the same general range as 1993. In the Kansas City metro area, this year will be much lower (10 feet possibly), and from Sibley to the mouth most locations will be 2 to 5 feet lower depending on location and tributary inflows.

Here's the link:

<http://www.nwo.usace.army.mil/html/op-e/WaterMgt/Below%20Gavins%20-%20Historic%20Flood%20Events%20-%20Final.pdf>

VR,
Jody

-----Original Message-----

From: Hofmann, Anthony J COL NWK
Sent: Tuesday, June 14, 2011 6:10 PM
To: Farhat, Jody S NWD02
Subject: Re: Request for USACE representative for Teletown Hall tomorrow evening at 8:15 ET (UNCLASSIFIED)

Roger Jody.

Just curious--the 1993 comparison continues to come up and I know it's an apples to oranges comparison. Have we got anything on the 1993 flood overview?
I haven't asked NWK yet.

Colonel Tony Hofmann, PMP
Commander, Kansas City District
U.S. Army Corps of Engineers
B.B. 816-807-0129

----- Original Message -----

From: Farhat, Jody S NWD02
To: Hofmann, Anthony J COL NWK

Cc: Blair, Amy E NWK
Sent: Tue Jun 14 16:07:35 2011
Subject: RE: Request for USACE representative for Teletown Hall tomorrow evening at 8:15 ET
(UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

I'd be happy to participate. I'll work with Amy to get all the details.

Jody

-----Original Message-----

From: Hofmann, Anthony J COL NWK
Sent: Tuesday, June 14, 2011 1:59 PM
To: Farhat, Jody S NWD02
Cc: Blair, Amy E NWK
Subject: FW: Request for USACE representative for Teletown Hall tomorrow evening at 8:15 ET
(UNCLASSIFIED)

Jody-
Received your earlier email.
Not a requirement, but certainly would not hurt to have your expertise if you are game.
COL H

Building Strong!

Colonel Anthony J. Hofmann, PMP
Commander, Kansas City District
U.S. Army Corps of Engineers

Office: (816) 389-3202
Fax: (816) 389-2027
<http://www.nwk.usace.army.mil/>

-----Original Message-----

From: [REDACTED] NWK
Sent: Tuesday, June 14, 2011 12:55 PM
To: Hofmann, Anthony J COL NWK
Subject: FW: Request for USACE representative for Teletown Hall tomorrow evening at 8:15 ET
(UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Here's the Details:

Rep. Jenkins and Gov. Brownback will act as moderators during the call. The purpose of the call is for residents of Northeast Kansas to have a forum to ask questions of USACE, FEMA, and relevant state agencies to educate them. Since that is the case, we are hoping that at the beginning of the call after a brief introductory remarks from the Congresswoman and Governor, USACE and FEMA representatives will each give a very brief outline of the situation and an update of where everything stands. The remainder of the call will be dedicated to

question and answer time. We imagine that most questions will be directed towards Col. Hoffman, the FEMA representatives, and the state agencies.

Since you are familiar with the teletown format, you know that our office will be screening calls to ensure both quality and variety. Rep. Jenkins and Gov. Brownback will be on the call the entire time to act as moderators.

v/r,

[REDACTED]
Office Phone: [REDACTED]
Office Fax: [REDACTED]
Cell Phone: [REDACTED]
Website: <http://www.usace.army.mil>

-----Original Message-----

From: Hofmann, Anthony J COL NWK
Sent: Tuesday, June 14, 2011 12:53 PM
To: [REDACTED] NWK
Cc: Blair, Amy E NWK; [REDACTED] NWK
Subject: RE: Request for USACE representative for Teletown Hall tomorrow evening at 8:15 ET (UNCLASSIFIED)

[REDACTED]
I'll be back in KC for hydropower conf as this is important for long-term viability of hydro program.

I can't speak to Jud's availability; recommend he and I call in from the EOC at 1915. May be some folks (Eric Shumate?) already around as I would imagine some discussion on Kansas lakes and releases will be discussed.

COL H

Building Strong!

Colonel Anthony J. Hofmann, PMP
Commander, Kansas City District
U.S. Army Corps of Engineers

Office: (816) 389-3202
Fax: (816) 389-2027
<http://www.nwk.usace.army.mil/>

-----Original Message-----

From: [REDACTED] NWK
Sent: Tuesday, June 14, 2011 12:38 PM
To: Hofmann, Anthony J COL NWK
Subject: FW: Request for USACE representative for Teletown Hall tomorrow evening at 8:15 ET (UNCLASSIFIED)
Importance: High

Classification: UNCLASSIFIED
Caveats: NONE

Sir,

Congresswoman Jenkins office has ask that we participate in a joint teletown hall with KS Governor Sam Brownback on Wed (tomorrow) evening at 2015 EDT (1915 CDT) for one hour. FEMA has also been asked to participate. No particular topics at this time, however, the topic of discussions is flooding of the lower Missouri River and affected areas in Northeast Kansas.

I gave Amy a tentative at this point as they have asked for a representative and possibly COL Hofmann. Jud has concurred to be on the call.

v/r,

[REDACTED]
Office Phone: ([REDACTED])
Office Fax: ([REDACTED])
Cell Phone: ([REDACTED])
Website: <http://www.usace.army.mil>

-----Original Message-----

From: Blair, Amy E NWK
Sent: Tuesday, June 14, 2011 11:20 AM
To: [REDACTED] NWK; [REDACTED] NWK
Cc: [REDACTED] NWK; [REDACTED] NWK; [REDACTED] NWK
Subject: FW: Request for USACE representative for Teletown Hall tomorrow evening at 8:15 ET (UNCLASSIFIED)

Classification: UNCLASSIFIED

Caveats: NONE

This is a request for COL H to participate in Congresswoman Jenkins and Governor Brownback's joint teletown hall.

This is essentially a phone call that is structured beyond a conference call. Is this something COL H could do?

From: Brainard, Colin [<mailto:Colin.Brainard@mail.house.gov>]
Sent: Tuesday, June 14, 2011 11:04 AM
To: Blair, Amy E NWK
Cc: Leopold, Pat; Calderon, Kathy
Subject: Request for USACE representative for Teletown Hall tomorrow evening at 8:15 ET

Amy,

Thank you again for Col. Hoffman's participation in last Friday's windshield tour of the lower Missouri River communities with Rep. Jenkins and Rep. Graves.

I want to inform you that Congresswoman Jenkins and Governor Brownback will be hosting a teletown hall tomorrow evening from 8:15 p.m. ET for approximately one hour regarding flooding of the lower Missouri River and affected areas in Northeast Kansas.

We would like to invite a representative of the USACE Kansas City District to participate in the call and answer questions if needed. We also plan on inviting representatives from FEMA to answer questions about possible disaster assistance and NFIP.

Please let us know if Col. Hoffman or another Corps representative can participate. Thank you in advance.

Colin C. Brainard
Legislative Assistant
Rep. Lynn Jenkins, CPA

Classification: UNCLASSIFIED
Caveats: NONE

Classification: UNCLASSIFIED
Caveats: NONE

Classification: UNCLASSIFIED
Caveats: NONE

Classification: UNCLASSIFIED
Caveats: NONE

Classification: UNCLASSIFIED
Caveats: NONE

From: Farhat, Jody S NWD02
Sent: Tuesday, June 14, 2011 6:52 PM
To: Blair, Amy E NWK
Subject: RE: Levee breaks (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Amy,

Here's the response:

It will take a week, and potentially as much as several weeks for all the overbank areas to fill before the full effect of the 150,000 cfs reaches the State of Missouri. Until all those areas fill, locations won't be seeing the full effect of the 150 kcfs release. Once the river does stabilize at the higher releases, an increase of 5,000 cfs would have a minor effect on river stages.

One way to see this is on the table of expected stages once the 150,000 cfs flows reaches each location. I've included the link below. By examining the range of expected stages and flow, you can get an idea at each location how many cfs are in each foot of river stage. For example, the potential range of stages at Waverly is 27 to 31 feet with corresponding flows of 230 kcfs and 370 kcfs. That tells me in that 4 foot range, the flow difference is $370 - 230 = 140$ kcfs, or about 35 kcfs per foot. Therefore a 5 kcfs range would only raise the river a couple tenths of a foot.

That's my "ballpark" calculation; of course it will be different at each location and will depend on local tributary inflows.

Here's the link: <http://www.nwk.usace.army.mil/Flood/SitRep/GPR.pdf>

Let me know if you have any questions.

Regards,
Jody

-----Original Message-----

From: Blair, Amy E NWK
Sent: Tuesday, June 14, 2011 6:03 PM
To: Farhat, Jody S NWD02; Kneuvean, Eugene J NWK
Subject: FW: Levee breaks (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

I know you don't like to answer this question and I explained to Klip why. Is there a basic response?

-----Original Message-----

From: Klippenstein, Brian (Blunt) [<mailto:Brian.Klippenstein@blunt.senate.gov>]
Sent: Tuesday, June 14, 2011 10:16 AM
To: Blair, Amy E NWK
Subject: RE: Levee breaks (UNCLASSIFIED)

Amy, I keep getting asked this question and I know there is nothing hard and fast and that it depends upon the existing river stage, but in general, how much will the river rise given certain increments of releases at Gavins? For example, will going from 140k cfs to 150k cfs increases the stage 6 inches? Is 50kcfs increase 3 - 5 feet or what....again, ball park?

Classification: UNCLASSIFIED
Caveats: NONE

Classification: UNCLASSIFIED
Caveats: NONE

[REDACTED] NWO

From: [REDACTED]
Sent: Tuesday, June 14, 2011 6:58 PM
To: Farhat, Jody S NWD02
Subject: Re: Rain impacting discharges from Garrison (UNCLASSIFIED)

Jody,

Tom Gurss was the one that mentioned the higher flows at Bismarck due to the trib flows. I told them the release forecast had not changed but that the continued rains were reducing our flexibility.

Mike

Message sent via my BlackBerry Wireless Device

----- Original Message -----

From: Farhat, Jody S NWD02
To: [REDACTED]
Cc: [REDACTED]
Sent: Tue Jun 14 16:14:00 2011
Subject: RE: Rain impacting discharges from Garrison (UNCLASSIFIED)

Classification: UNCLASSIFIED

Caveats: NONE

[REDACTED] I wasn't on the call but the release schedule has not changed, therefore I assume the additional flow through Bismarck will be coming from the tributaries between Garrison dam and the Bismarck area. The Knife River comes in just downstream of Garrison and the Heart River comes in on the south side of Mandan. In addition there are other smaller tributaries that will be contributing flow due to rain in the local area.

Regards,
Jody

-----Original Message-----

From: [REDACTED]
Sent: Tuesday, June 14, 2011 4:00 PM
To: [REDACTED] Farhat, Jody S NWD02
Cc: [REDACTED]
Subject: Rain impacting discharges from Garrison (UNCLASSIFIED)

Classification: UNCLASSIFIED

Caveats: NONE

[REDACTED] Jody:

I was on the 3:30 call this afternoon with the county representatives and wanted to ensure I was taking down numbers correctly from what Mike was reporting from the RCC. Due to rain on top of the Garrison discharges we are expecting 164,000 through Bismarck for the next seven days and looking at the discharges carefully from Garrison due to the inflows to Oahe. Does this mean a possible increase in discharge above 150,000 on Friday? Folks here in the EOC were questioning the numbers and what they heard also. Thanks.

[REDACTED]

Classification: UNCLASSIFIED

Caveats: NONE

Classification: UNCLASSIFIED

Caveats: NONE

NWO

[illegible]

Missouri River aerial flood photos from Desoto Bend (Blair area) to Rulo are located on branch shared drive at 2011_Flood/Missouri River Aerial Photos/Mo River Rulo to Blair 14 June 2011. Photos are in directories by reach. There is a separate directory for L-575-Hamburg area. There was a low ceiling today so photos are lower quality. Also flight could not go to Blair-Sioux City reach because of low ceiling.

Thanks,

Hydraulic Engineer
Water Control & Water Quality Section

[REDACTED] NWO

From: [REDACTED]
Sent: Tuesday, June 14, 2011 6:47 PM
To: [REDACTED]
Cc: [REDACTED]; Farhat, Jody S
[REDACTED]
[REDACTED]
Subject: RE: Release/Gate Changes (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

[REDACTED]
Garrison has experienced another slide in our tailrace, west bank area. Although it appears relatively minor it is extremely difficult to know what's going on beneath the water surface. The slide was noted an hour or so ago and is likely due to today's shift in releases between the plant and regulating tunnels. We have contacted the Conservancy District, who was the only contractor we could get in here to do this work previously. They have told us they will be onsite tomorrow morning to make yet another repair, however, they will be pulling their equipment following this repair because they have other work to perform.

Due to the slide, we will now shift the increase in releases (scheduled for 8:00 pm this evening) as we decrease our generation, over to the spillway. If we are going to continue to change releases in this manner Garrison must have a contractor, under contract and on stand-by, to haul and place additional materials as these slides will continue. I need the District to work with Pem Hall and get a contractor on board ASAP! Is this an "emergency"? Not yet, but we've tried to contract this work previously with no success. We MUST have the ability to respond quickly to preclude further slides.

I do not condone this continued method of operation.

[REDACTED], P.E.
Operations Project Manager
Garrison Project

-----Original Message-----


From: [REDACTED]
Sent: Tuesday, June 14, 2011 5:30 PM
To: [REDACTED]
Cc: [REDACTED]; Farhat, Jody S NWD02
Subject: Release/Gate Changes (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

All,
Just wanted to send an email to follow up on our earlier conversations. Western has sent guidelines out to their personnel to operate to minimize gate changes at the mainstem dams. This includes using alternate sources for peaking including steam and wind. The load control plant (Fort Randall or Garrison) will only be regulated so as to not cause tunnel or gate changes. Western is still working with Basin Electric on additional measures to provide load control.

Even though Western is working to minimize fluctuations they are still getting used to relying on others to meet some of the needs that the hydropower system usually provides. It may take a few days to smooth out the changes to their operation. In addition, overnight load demands have been low, so Western is asking us to lower generation (Garrison, Big Bend, Fort Randall) at pre-determined times (2000 to 2200 hrs) and then increase generation (generally 0800 hrs) to meet the daytime demands. This requires spillway or outlet tunnel changes twice a day, but cuts down on the number of changes and reduces the likelihood of unplanned changes. Weekend generation will be lowered as well and should only require changes on Friday night and Monday morning. As the summer temperatures increase these guidelines may change.

We are continuing to coordinate our regulation with Western. Please let me know if you have any additional concerns as we continue to work through these issues.


Power Production Team Leader
Missouri River Basin
Water Management Division

Classification: UNCLASSIFIED
Caveats: NONE

Classification: UNCLASSIFIED
Caveats: NONE

NWO

From: Hofmann, Anthony J COL NWK
Sent: Tuesday, June 14, 2011 6:43 PM
To: Farhat, Jody S NWD02
Subject: Re: Request for USACE representative for Teletown Hall tomorrow evening at 8:15 ET (UNCLASSIFIED)

Thanks Jody--will look at tonight after arrival in KC.

BTW, you and the RCC Team are doing great! We are all in this thing together.
ah

Colonel Tony Hofmann, PMP
Commander, Kansas City District
U.S. Army Corps of Engineers
B [REDACTED]

----- Original Message -----

From: Farhat, Jody S NWD02
To: Hofmann, Anthony J COL NWK
Sent: Tue Jun 14 16:37:59 2011
Subject: RE: Request for USACE representative for Teletown Hall tomorrow evening at 8:15 ET (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Sir,

Below is a link to the NWO website where they list historic crests for a variety of flood events including 1993. The primary reason for not comparing this flood event to previous events is that it really depends where you are. 1993 was a non-event upstream of Gavins Point. We were coming out of a severe drought and were able to shut off releases from the mainstem reservoir system and refill all the reservoirs. Releases during 1993 from Gavins were as low as 6,000 cfs.

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VR,
Jody

-----Original Message-----

From: Hofmann, Anthony J COL NWK
Sent: Tuesday, June 14, 2011 6:10 PM

To: Farhat, Jody S NWD02

Subject: Re: Request for USACE representative for Teletown Hall tomorrow evening at 8:15 ET
(UNCLASSIFIED)

Roger Jody.

Just curious--the 1993 comparison continues to come up and I know it's an apples to oranges comparison. Have we got anything on the 1993 flood overview?
I haven't asked NWK yet.

Colonel Tony Hofmann, PMP
Commander, Kansas City District
U.S. Army Corps of Engineers
[REDACTED]

----- Original Message -----

From: Farhat, Jody S NWD02

To: Hofmann, Anthony J COL NWK

Cc: [REDACTED]

Sent: Tue Jun 14 16:07:35 2011

Subject: RE: Request for USACE representative for Teletown Hall tomorrow evening at 8:15 ET
(UNCLASSIFIED)

Classification: UNCLASSIFIED

Caveats: NONE

I'd be happy to participate. I'll work with [REDACTED] to get all the details.

Jody

-----Original Message-----

From: Hofmann, Anthony J COL NWK

Sent: Tuesday, June 14, 2011 1:59 PM

To: Farhat, Jody S NWD02

Cc: [REDACTED]

Subject: FW: Request for USACE representative for Teletown Hall tomorrow evening at 8:15 ET
(UNCLASSIFIED)

Jody-

Received your earlier email.

Not a requirement, but certainly would not hurt to have your expertise if you are game.

COL H

Building Strong!

Colonel Anthony J. Hofmann, PMP
Commander, Kansas City District
U.S. Army Corps of Engineers

Office: (816) 389-3202

Fax: (816) 389-2027

<http://www.nwk.usace.army.mil/>

-----Original Message-----

From: [REDACTED]

Sent: Tuesday, June 14, 2011 12:55 PM

To: Hofmann, Anthony J COL NWK

Subject: FW: Request for USACE representative for Teletown Hall tomorrow evening at 8:15 ET (UNCLASSIFIED)

Classification: UNCLASSIFIED

Caveats: NONE

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v/r,

[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

Website: <http://www.usace.army.mil>

-----Original Message-----

From: Hofmann, Anthony J COL NWK

Sent: Tuesday, June 14, 2011 12:53 PM

To: [REDACTED]

Cc: [REDACTED]

Subject: RE: Request for USACE representative for Teletown Hall tomorrow evening at 8:15 ET (UNCLASSIFIED)

[REDACTED]
I'll be back in KC for hydropower conf as this is important for long-term viability of hydro program.

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COL H

Building Strong!

Colonel Anthony J. Hofmann, PMP
Commander, Kansas City District
U.S. Army Corps of Engineers

[REDACTED]

[REDACTED]
http://www.nwk.usace.army.mil/

-----Original Message-----

From: [REDACTED]
Sent: Tuesday, June 14, 2011 12:38 PM
To: Hofmann, Anthony J COL NWK
Subject: FW: Request for USACE representative for Teletown Hall tomorrow evening at 8:15 ET (UNCLASSIFIED)
Importance: High

Classification: UNCLASSIFIED
Caveats: NONE

Sir,

Congresswoman Jenkins office has ask that we participate in a joint teletown hall with KS Governor Sam Brownback on Wed (tomorrow) evening at 2015 EDT (1915 CDT) for one hour. FEMA has also been asked to participate. No particular topics at this time, however, the topic of discussions is flooding of the lower Missouri River and affected areas in Northeast Kansas.

I gave Amy a tentative at this point as they have asked for a representative and possibly COL Hofmann. Jud has concurred to be on the call.

v/r,

[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
Website: <http://www.usace.army.mil>

-----Original Message-----

From: [REDACTED]
Sent: Tuesday, June 14, 2011 11:20 AM
To: [REDACTED]
Cc: [REDACTED]
Subject: FW: Request for USACE representative for Teletown Hall tomorrow evening at 8:15 ET (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

This is a request for COL H to participate in Congresswoman Jenkins and Governor Brownback's joint teletown hall.

This is essentially a phone call that is structured beyond a conference call. Is this something COL H could do?

From: Brainard, Colin [mailto:Colin.Brainard@mail.house.gov]
Sent: Tuesday, June 14, 2011 11:04 AM
To: [REDACTED]
Cc: Leopold, Pat; Calderon, Kathy

Subject: Request for USACE representative for Teletown Hall tomorrow evening at 8:15 ET

██████████

Thank you again for Col. Hoffman's participation in last Friday's windshield tour of the lower Missouri River communities with Rep. Jenkins and Rep. Graves.

I want to inform you that Congresswoman Jenkins and Governor Brownback will be hosting a teletown hall tomorrow evening from 8:15 p.m. ET for approximately one hour regarding flooding of the lower Missouri River and affected areas in Northeast Kansas.

We would like to invite a representative of the USACE Kansas City District to participate in the call and answer questions if needed. We also plan on inviting representatives from FEMA to answer questions about possible disaster assistance and NFIP.

Please let us know if Col. Hoffman or another Corps representative can participate. Thank you in advance.

Colin C. Brainard
Legislative Assistant
Rep. Lynn Jenkins, CPA

Classification: UNCLASSIFIED
Caveats: NONE

Classification: UNCLASSIFIED
Caveats: NONE

Classification: UNCLASSIFIED
Caveats: NONE

Classification: UNCLASSIFIED
Caveats: NONE

Classification: UNCLASSIFIED
Caveats: NONE

[REDACTED] NWO

From: [REDACTED]
Sent: Tuesday, June 14, 2011 6:40 PM
To: [REDACTED]; Farhat, Jody S NWD02
Subject: FW: Flood Newsletter (UNCLASSIFIED)
Attachments: Flood Fight 2011 NWO 12 June.pdf

Classification: UNCLASSIFIED
Caveats: NONE

In case you didn't see this. Some good talking points in the attached.

Thanks,
[REDACTED]
[REDACTED]
[REDACTED]

-----Original Message-----

From: Ruch, Robert J COL NWO
Sent: Tuesday, June 14, 2011 8:43 AM
To: [REDACTED]
Cc: Tipton, Robert A Col NWD; McMahon, John R BG NWD; [REDACTED]; Blechinger, Erik T NWO
Subject: Flood Newsletter (UNCLASSIFIED)

NWO/NWK,

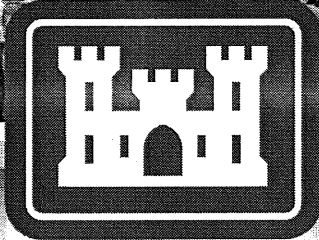
Let me start by saying that I am extremely proud of the this District and the folks from around the Corps of Engineers who are helping us fight this epic flooding. The Missouri River Basin is experiencing record flows out of its main-stem dams which will likely continue through August. As a result, our NWD, Omaha and Kansas City Districts staffs are engaged in a historic flood fight, referred to as Operation Mighty MO. The attached newsletter is a brief synopsis of our regional flood fighting efforts. Your efforts are herculean. Additionally, it is important to remember that we are under a great deal of scrutiny, and we must all think carefully about comments made in public. Please take a moment to familiarize yourselves with the attached newsletter. If you have questions, please look to your supervisor for further guidance or speak with him/her about your concerns. I'm proud of the work we've accomplished so far, and I thank you for your service!

V/R,

COL Bob Ruch
Commander
Omaha District, USACE
[REDACTED]

<https://www.nwo.usace.army.mil/>

Classification: UNCLASSIFIED
Caveats: NONE



FLOOD FIGHT 2011

Team Omaha,

We are engaged in an epic flood fight. Our reservoirs across the Missouri River Basin are holding back record amounts of inflow. There is still more runoff from snowpack to come. We are releasing water as a system at levels we've not seen before. Both our main stem projects and our people are facing unprecedented pressures.

And you, and the dams, are performing admirably with a level of precision and care that, frankly, is awe-inspiring.

Right now, we are under an increasing level of scrutiny as the flood and its impacts play out across numerous states, stretching from Montana to Missouri. There are people critical of our actions, and I know that each of you have been on the receiving end of some of those comments. Most of those come from people whose homes or businesses are threatened by rising waters. They are frustrated, angry and looking for someone or something to blame.

Unfortunately, there is a lot of misinformation circling this act of nature and creating a distorted view of the situation. I want to take a moment to bring some clarity and facts into this ongoing dialogue.

We are not here by accident or error.

In 2010, we experienced the third highest water year on record in the Missouri River Basin. As flood events wound down at the end of the summer, we began releasing high levels of water from our six main stems throughout the winter. Those releases were slowed in January because of significant ice development and the potential of ice jam flooding. As that threat passed, we ramped up the releases once more. From December through May, releases were well above average each month.

This flood fight will continue through the summer and our hard work will continue to be scrutinized. I offer the following battle-tested advice and guidance:

Facebook and Twitter are great tools which are allowing us to communicate with the workforce and the public on our flood fighting efforts.

We certainly encourage our employees to follow our pages, but we remind you to use your best judgment when considering posting comments or replies. Being helpful is providing links to information that is already available. If you post, identify yourself as an employee. If you do not wish to be identified as an employee, don't post.

We must remember that when we speak as employees of the Corps, we speak for the Corps as a whole. Just because our name is on the page, our role as a Corps employee isn't overlooked. Additionally, if the posts are made during work hours, comments can create a liability.

The same goes for our activities outside of work. Please, do not wear your emergency management attire when you are out for an evening meal, especially if you choose to drink alcohol with your meal. Additionally, do not talk shop. People overhear our conversations and we are under tremendous scrutiny.

Use your best judgment. If you wouldn't say it or do it with a TV camera in your face, don't say it or do it online or in public.



US Army Corps of Engineers
Omaha District

BUILDING STRONG®

On Jan. 28, 2011, the full flood capacity of the Missouri River reservoir system was available for this year's runoff season.

On May 1, the Corps projected summer releases of 57,500 cubic feet per second from Gavins Point Dam, and we were on schedule to evacuate the runoff from the record snowpack.

But extraordinary rainfall across Montana, the Dakotas and northern Wyoming changed the situation. The May 2011 runoff into the Missouri River Basin above Sioux City was 10.5 million acre feet as opposed to our historical average of 3.3 MAF. This was the second highest single month of runoff since 1898 – the only higher being April of 1952 with 13.2 MAF.

Historically, 75 percent of annual runoff occurs between March and July. The current record inflow above Sioux City in the Missouri River basin is 40 million acre feet, which occurred in 1881. That 5-month runoff greatly exceeds the volume of runoff for any other year at this location for which records exist. It formed the basis for the design of flood control storage space behind the six main stem projects.

But this year, the current prediction for runoff from March to July is 44 million acre feet, shattering that 1881 amount. The total runoff for 2011 from January to December is forecasted to be 54.5 million acre feet, also a new record, beating the previous record of 49.0 MAF in 1997.

To respond to this record inflow, we have ramped up releases as slowly as practical to give the public and communities time to prepare. As I write this, our releases are beginning to peak at 150,000 cfs – a level they likely will remain at well into August.

In the face of these high releases, it can be difficult to understand the magnitude of the work we are doing and what impact the Corps has had on this flood event and prior flooding.

So here are a few points to consider:

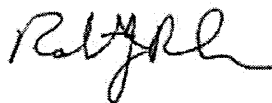
Prior to the construction of the six main stem dams, the Missouri River flooded nearly every year. Those floods inhibited agriculture and navigation. Much of the economic engine that exists along the river is built squarely on the backs of the engineers who designed Fort Peck, Garrison, Oahe, Fort Randall, Big Bend and Gavins Point as well as the men and women who maintain and operate those main stem projects today.

The dams allow us to slow down and regulate the flows along the Missouri River. Without the main stem projects, preliminary analysis shows those flows would have been much higher than the 150,000 cfs we are releasing.

The main stem projects have saved more than \$44.2 billion in estimated damages (indexed to 2010 values) since they came into operation. That number doesn't include the substantial value of property protected this year. Their use, undoubtedly, has saved many lives throughout their history.

Finally, team, I want to reiterate that you are doing incredible work in a difficult environment. What you are doing matters. Communities, businesses, lives are being preserved as a direct result of what we accomplish. I am proud to serve with each and every one of you.

Essayons,



Col. Robert J. Ruch
Commander, Omaha District

[REDACTED] NWO

From: [REDACTED]
Sent: Tuesday, June 14, 2011 6:22 PM
To: Farhat, Jody S NWD02; J [REDACTED]
Cc: [REDACTED]
Subject: RE: Rain impacting discharges from Garrison (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Thanks Ma'am. Also, thanks for having COL Ruch explain surcharge pool on the CODEL this evening.

[REDACTED]
[REDACTED]
-----Original Message-----

From: Farhat, Jody S NWD02
Sent: Tuesday, June 14, 2011 6:14 PM
To: [REDACTED]
Cc: [REDACTED]
Subject: RE: Rain impacting discharges from Garrison (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

[REDACTED] I wasn't on the call but the release schedule has not changed, therefore I assume the additional flow through Bismarck will be coming from the tributaries between Garrison dam and the Bismarck area. The Knife River comes in just downstream of Garrison and the Heart River comes in on the south side of Mandan. In addition there are other smaller tributaries that will be contributing flow due to rain in the local area.

Regards,
Jody


-----Original Message-----

From: [REDACTED]
Sent: Tuesday, June 14, 2011 4:00 PM
To: [REDACTED]
Cc: [REDACTED]
Subject: Rain impacting discharges from Garrison (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

[REDACTED] Jody:

I was on the 3:30 call this afternoon with the county representatives and wanted to ensure I was taking down numbers correctly from what Mike was reporting from the RCC. Due to rain on top of the Garrison discharges we are expecting 164,000 through Bismarck for the next seven days and looking at the discharges carefully from Garrison due to the inflows to Oahe. Does this mean a possible increase in discharge above 150,000 on Friday? Folks here in the EOC were questioning the numbers and what they heard also. Thanks.


Classification: UNCLASSIFIED
Caveats: NONE

Classification: UNCLASSIFIED
Caveats: NONE

Classification: UNCLASSIFIED
Caveats: NONE

[REDACTED] NWO

From: [REDACTED]
Sent: Tuesday, June 14, 2011 6:03 PM
To: Farhat, Jody S NWD02; [REDACTED], Eugene S NWK
Subject: FW: Levee breaks (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

I know you don't like to answer this question and I explained to Klip why. Is there a basic response?

-----Original Message-----

From: Klippenstein, Brian (Blunt) [<mailto:Brian.Klippenstein@blunt.senate.gov>]
Sent: Tuesday, June 14, 2011 10:16 AM
To: Blair, Amy E NWK
Subject: RE: Levee breaks (UNCLASSIFIED)

[REDACTED] I keep getting asked this question and I know there is nothing hard and fast and that it depends upon the existing river stage, but in general, how much will the river rise given certain increments of releases at Gavins? For example, will going from 140k cfs to 150k cfs increases the stage 6 inches? Is 50kcfs increase 3 - 5 feet or what....again, ball park?

Classification: UNCLASSIFIED
Caveats: NONE

NWO

From: [REDACTED]
Sent: Tuesday, June 14, 2011 5:30 PM
To: [REDACTED]
Cc: [REDACTED]; Oliver, Thomas L NWO; Galt, Ronald M NWO; Schenk, Randy NWO; Farhat, Jody S NWD02
Subject: Release/Gate Changes (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

All,
Just wanted to send an email to follow up on our earlier conversations. Western has sent guidelines out to their personnel to operate to minimize gate changes at the mainstem dams. This includes using alternate sources for peaking including steam and wind. The load control plant (Fort Randall or Garrison) will only be regulated so as to not cause tunnel or gate changes. Western is still working with Basin Electric on additional measures to provide load control.

Even though Western is working to minimize fluctuations they are still getting used to relying on others to meet some of the needs that the hydropower system usually provides. It may take a few days to smooth out the changes to their operation. In addition, overnight load demands have been low, so Western is asking us to lower generation (Garrison, Big Bend, Fort Randall) at pre-determined times (2000 to 2200 hrs) and then increase generation (generally 0800 hrs) to meet the daytime demands. This requires spillway or outlet tunnel changes twice a day, but cuts down on the number of changes and reduces the likelihood of unplanned changes. Weekend generation will be lowered as well and should only require changes on Friday night and Monday morning. As the summer temperatures increase these guidelines may change.

We are continuing to coordinate our regulation with Western. Please let me know if you have any additional concerns as we continue to work through these issues.

[REDACTED]
Power Production Team Leader
Missouri River Basin
Water Management Division

Classification: UNCLASSIFIED
Caveats: NONE

[REDACTED] NWO

From: [REDACTED]
Sent: Tuesday, June 14, 2011 4:38 PM
To: [REDACTED]
Cc: V [REDACTED] 'Julie Meyer'; 'Kevin Low'
Subject: USGS Waverly Measurement (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

USGS took a discharge measurement at Waverly this afternoon. Tom Harris called me a few minutes ago.

IMPORTANT: They adjusted the DCP reading downward 0.4 ft.

At 2:40 PM, they measured 158,000 cfs at 23.69 ft.

At 2:30 PM, the DCP transmitted 24.06 with 159,000 cfs. So the discharge was basically correct, but the stage is adjusted downward.

At 2:45 PM, the DCP transmitted 23.64 ft with a discharge of 153,000 cfs. So expect a shift soon to be closer to the measurement.

Classification: UNCLASSIFIED
Caveats: NONE

[REDACTED] NWO

From: [REDACTED]
Sent: Tuesday, June 14, 2011 4:12 PM
To: Farhat, Jody S NWD02; [REDACTED]
Cc: [REDACTED]
Subject: North Platte and South Platte snowpack (UNCLASSIFIED)
Attachments: Snowpack-Platte.pdf

Classification: UNCLASSIFIED
Caveats: NONE

Jody -

The North Platte and South Platte snowpack report is attached.

Let me know if you need further information about the snow we are monitoring in the Platte basin.

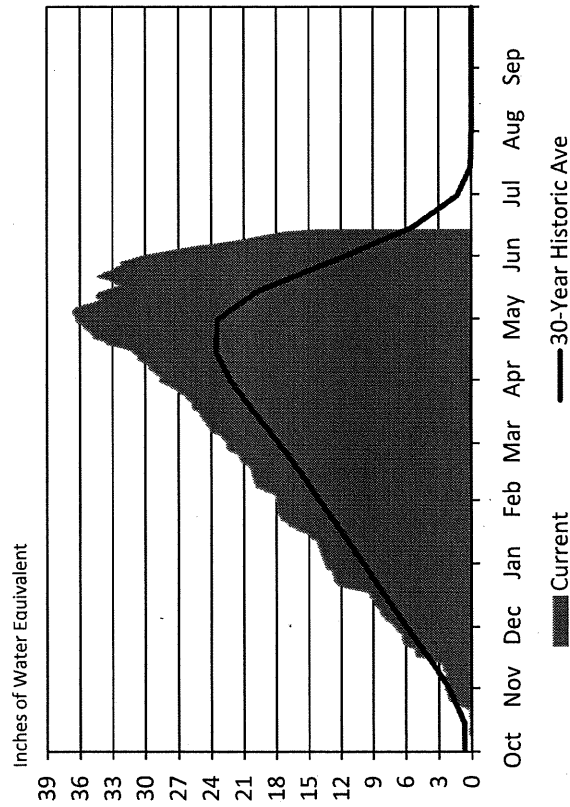
Thanks,
Kellie

[REDACTED]
Chief, Water Control and Water Quality Section
[REDACTED]

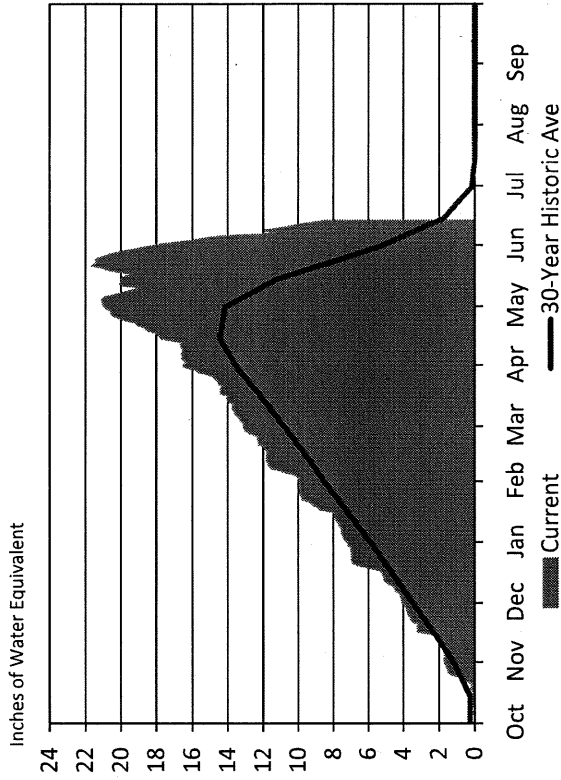
Classification: UNCLASSIFIED
Caveats: NONE

Platte River Basin Mountain Snowpack Water Content 2010-2011

Total North Platte



Total South Platte



The North and South Platte River Basin mountain snowpack normally peak near April 15. The mountain snowpack in the "Total North Platte" reaches appears to have peaked on May 3 at 156 percent of the normal April 15 peak. The mountain snowpack in the "Total South Platte" reaches appears to have peaked on May 21 at 150 percent of the normal April 15 peak. The current mountain snowpack as of June 14 is 60 percent and 59 percent of the normal April 15 peak in the "Total North Platte" and the "Total South Platte" reaches, respectively.

June 14, 2011

Provisional Data. Subject to revision.

[REDACTED] NWO

From: [REDACTED]
Sent: Tuesday, June 14, 2011 4:00 PM
To: [REDACTED] Farhat, Jody S NWD02
Cc: [REDACTED]
Subject: Rain impacting discharges from Garrison (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

[REDACTED] Jody:

I was on the 3:30 call this afternoon with the county representatives and wanted to ensure I was taking down numbers correctly from what Mike was reporting from the RCC. Due to rain on top of the Garrison discharges we are expecting 164,000 through Bismarck for the next seven days and looking at the discharges carefully from Garrison due to the inflows to Oahe. Does this mean a possible increase in discharge above 150,000 on Friday? Folks here in the EOC were questioning the numbers and what they heard also. Thanks.

[REDACTED]
[REDACTED]

Classification: UNCLASSIFIED
Caveats: NONE

From: Charlie_Scott@fws.gov
Sent: Tuesday, June 14, 2011 3:47 PM
To: Farhat, Jody S NWD02
Subject: simple description on CE website of MO River flood operations

Jody,

I had a request within FWS for general description of water control/flood operations - was there anything on CE website. I did some checking on NW Div. website and found all the sites relating to AOP, Project Orders, Standing Orders, and Master Manual (although I did not see a specific webpage for the MM but I could download the MM). Is there a short, succinct summary somewhere on CE website I can direct folks? Just checking
- no big priority with all the stuff you all have happening now. If you have a link you could email me that would be fine. Thanks.

Charlie

[REDACTED] NWO

From: [REDACTED] NWD
Sent: Tuesday, June 14, 2011 3:45 PM
To: Farhat, Jody S NWD02
Cc: Blechinger, Erik T NWO; Anderson, G Witt NWD; [REDACTED]
Subject: FW: [REDACTED] (UNCLASSIFIED)
Attachments: GOA6-21-11ArmyCorpsOfEngineersLetterDoc6.pdf

Classification: UNCLASSIFIED
Caveats: FOUO

Jody,

Per our discussion, would you be available at 4 pm, June 21, to call into the South Dakota Government Operations and Audit Committee meeting to answer via teleconference their questions about the Missouri river flooding situation?

I would also recommend, if available, that Erik or Witt join you as the "division leadership" to help field questions as necessary.

Does this work? If so, I will follow up with the POC and confirm.

Christina

-----Original Message-----

From: MRJIC
Sent: Tuesday, June 14, 2011 3:36 PM
To: [REDACTED] NWD
Subject: FW: Attention Christina Austin-Smith (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

-----Original Message-----

From: Tim.Flannery@state.sd.us [mailto:Tim.Flannery@state.sd.us]
Sent: Tuesday, June 14, 2011 3:34 PM
To: MRJIC
Subject: Attention Christina Austin-Smith

Per our conversation Christina, I'm attaching the pdf request letter from the Chair of the Government Operations and Audit Committee of the South Dakota Legislature. The letter mentions the time that the Committee has reserved to have a discussion with the US Army Corps of Engineers (June 21, 2011 at approximately 4:00 p.m.). Please let me know if you need more information or have any questions. Thank you Christina for the Corps willingness to talk to the Committee.

<<GOA6-21-11ArmyCorpsOfEngineersLetterDoc6.pdf>>

Tim Flannery, CPA CIDA
Department of Legislative Audit

e-mail: tim.flannery@state.sd.us
phone: (605) 773-6442
fax: (605) 773-6454

Classification: UNCLASSIFIED
Caveats: NONE

Attachment Classification: UNCLASSIFIED
Attachment Caveats: NONE

Classification: UNCLASSIFIED
Caveats: FOUO



SOUTH DAKOTA LEGISLATURE

State Capitol, 500 East Capitol Ave., Pierre, South Dakota 57501-5070

June 7, 2011

Mr. Eric Stasch
Army Corps of Engineers
Pierre, South Dakota 57501

Dear Mr. Stasch:

The Government Operations and Audit Committee has scheduled a meeting for June 21, 2011, in room 413, in the State Capitol Building, to review various issues involving state government.

The Committee requests that you be present on June 21, 2011 to discuss the Missouri river flooding situation.

The tentative agenda has this scheduled to begin at approximately 4:00 p.m.

If you have any questions, please contact Tim Flannery with the Department of Legislative Audit at 773-3595.

Sincerely,

Representative Lance Carson, Chair
Government Operations and Audit Committee

[REDACTED] NWO

From: [REDACTED]
Sent: Tuesday, June 14, 2011 3:11 PM
To: [REDACTED]
Subject: RE: Fwd: FW: Glacier Pictures (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

All, FYI I have been archiving emailed photos, along with the email, as PDF in the V:\Public\Flood_2011\pictures into either the "miscellaneous_river_photos" or to the other respective directories.

-----Original Message-----
From: [REDACTED]
Sent: Tuesday, June 14, 2011 3:09 PM
To: [REDACTED]
Subject: FW: Fwd: FW: Glacier Pictures (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Some snow pictures of the head of the Milk river area courtesy of Julie Meyer from NOAA.

Pictures taken June 5, 2011.

-----Original Message-----
From: Juliann Meyer [mailto:Julie.Meyer@noaa.gov]
Sent: Tuesday, June 14, 2011 2:53 PM
To: [REDACTED]
Subject: Fwd: Fwd: FW: Glacier Pictures

FYI

----- Original Message -----
Subject: Fwd: FW: Glacier Pictures
Date: Fri, 10 Jun 2011 12:05:11 -0600
From: Tanja Fransen <Tanja.Fransen@noaa.gov> <mailto:Tanja.Fransen@noaa.gov>
To: cheinje@usbr.gov, kevin.farr@mt.usda.gov, quentin.kubas@mdu.com, _NWS WR ROC <wr-roc@noaa.gov> <mailto:wr-roc@noaa.gov>, Alan Stempel <stempelalan@gmail.com> <mailto:stempelalan@gmail.com>, "B [REDACTED]" <[REDACTED]>
"Bausch, Douglas" <douglas.bausch@dhs.gov> <mailto:douglas.bausch@dhs.gov>, Benjamin Moyer <Benjamin.Moyer@noaa.gov> <mailto:Benjamin.Moyer@noaa.gov>, "Bicsak, Arthur" <abicsak@mt.gov> <mailto:abicsak@mt.gov>, Bruce Barstad <bbarstad@nemont.net> <mailto:bbarstad@nemont.net>, Bruce Peterson <bpeterson@valleycountymt.net> <mailto:bpeterson@valleycountymt.net>, Cam Shipp <cshipp@valleycountymt.net> <mailto:cshipp@valleycountymt.net>, Carrie Olheiser <Carrie.Olheiser@noaa.gov> <mailto:Carrie.Olheiser@noaa.gov>, Carson Buffington

<cbuffington@mt.gov> <mailto:cbuffington@mt.gov> , Chris Headdress <chrisheaddress@yahoo.com>
 <mailto:chrisheaddress@yahoo.com> , Clay Berger <clay.berger@fmdh.org>
 <mailto:clay.berger@fmdh.org> , Colleen Tone <ToneC@usa.redcross.org>
 <mailto:ToneC@usa.redcross.org> , DAN CARNEY <cityofglasgowmt@hotmail.com>
 <mailto:cityofglasgowmt@hotmail.com> , Dan Sietsema <des@rooseveltcountry.org>
 <mailto:des@rooseveltcountry.org> , [REDACTED]
 [REDACTED] , Delila Bruno <dbruno@mt.gov>
 <mailto:dbruno@mt.gov> , Denise Biggar <dbiggar@mt.gov> <mailto:dbiggar@mt.gov> , [REDACTED]
 [REDACTED] , Gina Loss <Gina.Loss@noaa.gov>
 <mailto:Gina.Loss@noaa.gov> , Glen Meier <galpin4u@nemont.net> <mailto:galpin4u@nemont.net> ,
 Gregg Hunter <gregg.hunter@nemont.coop> <mailto:gregg.hunter@nemont.coop> , Gregg Schalk
 <Gregg.Schalk@noaa.gov> <mailto:Gregg.Schalk@noaa.gov> , Jason Molstad
 <jason.molstad@mt.usda.gov> <mailto:jason.molstad@mt.usda.gov> , Jess Aber <jaber@mt.gov>
 <mailto:jaber@mt.gov> , [REDACTED]@usace.army.mil
 <mailto:john.e.daggett@usace.army.mil> , John Peterson <cgstreet@yahoo.com>
 <mailto:cgstreet@yahoo.com> , Julie Meyer <Julie.Meyer@noaa.gov>
 <mailto:Julie.Meyer@noaa.gov> , Karl Christians <kchristians@mt.gov>
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 <mailto:sheris@mt.gov> , Lyle Konkol <lyle.j.konkol@hud.gov> <mailto:lyle.j.konkol@hud.gov> ,
 Marge Wagner <marge.wagner@dhs.gov> <mailto:marge.wagner@dhs.gov> , Marijo Brady
 <Marijo.Brady@dhs.gov> <mailto:Marijo.Brady@dhs.gov> , Mark Gruener <mgruener@mcn.net>
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 <mailto:mark.rosales@nemont.coop> , Marv Cross <mcross@mt.gov> <mailto:mcross@mt.gov> , Mary
 Guokas <MGuokas@mt.gov> <mailto:MGuokas@mt.gov> , Matt Miles <MMiles@mt.gov>
 <mailto:MMiles@mt.gov> , Mike Dailey <mdailey@mt.gov> <mailto:mdailey@mt.gov> , MT DES
 Division <mtdes@mt.gov> <mailto:mtdes@mt.gov> , Pat Hallett <phallett@nemont.net>
 <mailto:phallett@nemont.net> , Patricia Gray <Patricia.Gray@fema.gov>
 <mailto:Patricia.Gray@fema.gov> , Paul L Provencher <pprovenc@usgs.gov>
 <mailto:pprovenc@usgs.gov> , Rick Seiler <rseiler@valleycountymt.net>
 <mailto:rseiler@valleycountymt.net> , Robert Kompel <rkompel@aol.com>
 <mailto:rkompel@aol.com> , "Rozelle, Jesse" <Jesse.Rozelle@dhs.gov>
 <mailto:Jesse.Rozelle@dhs.gov> , Samar Fay <editor@glasgowcourier.com>
 <mailto:editor@glasgowcourier.com> , "Sears, Traci" <TSears@mt.gov> <mailto:TSears@mt.gov> ,
 Sheena Wilson <swilson@mt.gov> <mailto:swilson@mt.gov> , Smokey and Vivian Stover
 <smokey2@nemont.net> <mailto:smokey2@nemont.net> , Stephanie Viste <townofnashua@nemont.net>
 <mailto:townofnashua@nemont.net> , Steve Knecht <sknecht@mt.gov> <mailto:sknecht@mt.gov> ,
 Tom Gurss <Tom.Gurss@noaa.gov> <mailto:Tom.Gurss@noaa.gov> , [REDACTED]
 <[REDACTED]@usace.army.mil> <mailto:tony.d.krause@usace.army.mil> , Vernon Buerkle
 <vbuerkle@valleycountysheriff.net> <mailto:vbuerkle@valleycountysheriff.net> , Wayne Shipp
 <wship@mt.gov> <mailto:wship@mt.gov> , Wayne Waarvik <vcroads@hotmail.com>
 <mailto:vcroads@hotmail.com> , Butch Renders <des@richland.org> <mailto:des@richland.org> ,
 Ryan Griggs <banner@midrivers.com> <mailto:banner@midrivers.com> , Wendy Pearson
 <Wendy.Pearson@noaa.gov> <mailto:Wendy.Pearson@noaa.gov> , John Paul Martin
 <John.Paul.Martin@noaa.gov> <mailto:John.Paul.Martin@noaa.gov>

>From MT DNRC. Photos from Glacier NP on June 5th,

----- Forwarded message -----

From: Sears, Traci <TSears@mt.gov>

Date: Fri, Jun 10, 2011 at 10:57

Subject: FW: Glacier Pictures

To: "Grassy, John" <JGrassy@mt.gov>, "Lay, Monique" <mlay@mt.gov>

Probably not the best choice of pictures to show right now. The next few weeks should be interesting.

Traci

Subject

Glacier Pictures

These are pictures I took from Swift Current Lookout on June 5th. Still plenty of snow in the mountains. The buried structures are part of Granite Park Chalet. (See attached file: Mt Gould (Large).jpg)(See attached file: Grait Park Chalet (Large).jpg)(See attached file: Heavens Peak (Large).jpg)

--

Tanja Fransen
Warning Coordination Meteorologist
NOAA/National Weather Service Glasgow
101 Airport Rd.
Glasgow, MT 59230

406-228-2850
<http://www.weather.gov/glasgow>

Classification: UNCLASSIFIED
Caveats: NONE

Classification: UNCLASSIFIED
Caveats: NONE

[REDACTED] NWO

From: [REDACTED]
Sent: Tuesday, June 14, 2011 2:42 PM
To: [REDACTED]
[REDACTED]
[REDACTED]
Cc: Farhat, Jody S NWD02; [REDACTED]
[REDACTED]
Subject: Flood Report #12 Fort Peck (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

All: Releases from Fort Peck Dam continue at 65,000 cfs with 13,000 cfs through the power plants and 52,000 cfs through the spillway. Fort Peck pool elevation was at 2252.18 at 0700 today.

We continue to monitor the spillway stilling basin erosion. The left side of the channel below the spillway is eroding more downstream, which seems to be improving the flow.

Twenty-four hour surveillance continues on the dam and spillway. No issues were noted in the last twenty-four hours.

Work on the temporary overhead line by Western Area Power Administration and Project staff to restore primary power to the spillway is still in progress. We are awaiting electrical supplies to complete.

[REDACTED] is working with Fort Peck Tribes today.

[REDACTED], Structural Engineer from Seattle District is on the Project today.

[REDACTED]
U.S. Army Corps of Engineers
Operations Project Manager
Fort Peck Project
Fort Peck, Montana 59223
[REDACTED]

Classification: UNCLASSIFIED
Caveats: NONE

[REDACTED] NWO

From: Hofmann, Anthony J COL NWK
Sent: Tuesday, June 14, 2011 1:59 PM
To: Farhat, Jody S NWD02
Cc: [REDACTED]
Subject: FW: Request for USACE representative for Teletown Hall tomorrow evening at 8:15 ET (UNCLASSIFIED)

Jody-
Received your earlier email.
Not a requirement, but certainly would not hurt to have your expertise if you are game.
COL H

Building Strong!

Colonel Anthony J. Hofmann, PMP
Commander, Kansas City District
U.S. Army Corps of Engineers

[REDACTED]
[REDACTED]
<http://www.nwk.usace.army.mil/>

-----Original Message-----

From: [REDACTED]
Sent: Tuesday, June 14, 2011 12:55 PM
To: Hofmann, Anthony J COL NWK
Subject: FW: Request for USACE representative for Teletown Hall tomorrow evening at 8:15 ET (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Here's the Details:

Rep. Jenkins and Gov. Brownback will act as moderators during the call. The purpose of the call is for residents of Northeast Kansas to have a forum to ask questions of USACE, FEMA, and relevant state agencies to educate them. Since that is the case, we are hoping that at the beginning of the call after a brief introductory remarks from the Congresswoman and Governor, USACE and FEMA representatives will each give a very brief outline of the situation and an update of where everything stands. The remainder of the call will be dedicated to question and answer time. We imagine that most questions will be directed towards Col. Hoffman, the FEMA representatives, and the state agencies.

Since you are familiar with the teletown format, you know that our office will be screening calls to ensure both quality and variety. Rep. Jenkins and Gov. Brownback will be on the call the entire time to act as moderators.

v/r,

[REDACTED]
Office Phone: (616) 22-3204

[REDACTED]
[REDACTED]
Website: <http://www.usace.army.mil>

-----Original Message-----

From: Hofmann, Anthony J COL NWK

Sent: Tuesday, June 14, 2011 12:53 PM

To: [REDACTED]

Cc: [REDACTED], Eugene J NWK

Subject: RE: Request for USACE representative for Teletown Hall tomorrow evening at 8:15 ET (UNCLASSIFIED)

[REDACTED]
I'll be back in KC for hydropower conf as this is important for long-term viability of hydro program.

I can't speak to [REDACTED] availability; recommend he and I call in from the EOC at 1915. May be some folks ([REDACTED]) already around as I would imagine some discussion on Kansas lakes and releases will be discussed.

COL H

Building Strong!

Colonel Anthony J. Hofmann, PMP
Commander, Kansas City District
U.S. Army Corps of Engineers

[REDACTED]
[REDACTED]
<http://www.nwk.usace.army.mil/>

-----Original Message-----

From: [REDACTED] NWK

Sent: Tuesday, June 14, 2011 12:38 PM

To: Hofmann, Anthony J COL NWK

Subject: FW: Request for USACE representative for Teletown Hall tomorrow evening at 8:15 ET (UNCLASSIFIED)

Importance: High

Classification: UNCLASSIFIED

Caveats: NONE

Sir,

Congresswoman Jenkins office has ask that we participate in a joint teletown hall with KS Governor Sam Brownback on Wed (tomorrow) evening at 2015 EDT (1915 CDT) for one hour. FEMA has also been asked to participate. No particular topics at this time, however, the topic of discussions is flooding of the lower Missouri River and affected areas in Northeast Kansas.

I gave Amy a tentative at this point as they have asked for a representative and possibly COL Hofmann. Jud has concurred to be on the call.

v/r,

[REDACTED]
[REDACTED] (816) 388-3304
[REDACTED] (816) 389-2021
[REDACTED] (816) 312-5724
Website: <http://www.usace.army.mil>

-----Original Message-----

From: [REDACTED]
Sent: Tuesday, June 14, 2011 11:20 AM
To: [REDACTED]
Cc: [REDACTED]
Subject: FW: Request for USACE representative for Teletown Hall tomorrow evening at 8:15 ET (UNCLASSIFIED)

Classification: UNCLASSIFIED

Caveats: NONE

This is a request for COL H to participate in Congresswoman Jenkins and Governor Brownback's joint teletown hall.

This is essentially a phone call that is structured beyond a conference call. Is this something COL H could do?

From: Brainard, Colin [mailto:Colin.Brainard@mail.house.gov]
Sent: Tuesday, June 14, 2011 11:04 AM
To: [REDACTED]
Cc: Leopold, Pat; Calderon, Kathy
Subject: Request for USACE representative for Teletown Hall tomorrow evening at 8:15 ET

[REDACTED]

Thank you again for Col. Hoffman's participation in last Friday's windshield tour of the lower Missouri River communities with Rep. Jenkins and Rep. Graves.

I want to inform you that Congresswoman Jenkins and Governor Brownback will be hosting a teletown hall tomorrow evening from 8:15 p.m. ET for approximately one hour regarding flooding of the lower Missouri River and affected areas in Northeast Kansas.

We would like to invite a representative of the USACE Kansas City District to participate in the call and answer questions if needed. We also plan on inviting representatives from FEMA to answer questions about possible disaster assistance and NFIP.

Please let us know if Col. Hoffman or another Corps representative can participate. Thank you in advance.

Colin C. Brainard
Legislative Assistant
Rep. Lynn Jenkins, CPA

Classification: UNCLASSIFIED

Caveats: NONE

Classification: UNCLASSIFIED

Caveats: NONE

Classification: UNCLASSIFIED
Caveats: NONE

[REDACTED] NWO

From: [REDACTED]
Sent: Tuesday, June 14, 2011 1:55 PM
To: Farhat, Jody S NWD02
Cc: DLL-NWK-MRJIC
Subject: FW: Today's headline article in Pierre paper (UNCLASSIFIED)

-----Original Message-----

From: [REDACTED] MVP
Sent: Tuesday, June 14, 2011 12:47 PM
To: Johnston, Paul T HQ@ NWO
Subject: Today's headline article in Pierre paper (UNCLASSIFIED)

Classification: UNCLASSIFIED

Caveats: NONE

I just got to read this morning's Capital Journal. Headline article quotes Jody Farhart.
<http://capjournal.com/articles/2011/06/14/news/doc4df6d00c78f8c907147522.txt>

[REDACTED]
U.S. Army Corps of Engineers
at South Dakota EOC
[REDACTED] (cell)

Classification: UNCLASSIFIED

Caveats: NONE

NWO

From: Anderson, G Witt NWD
Sent: Tuesday, June 14, 2011 1:42 PM
To: McMahon, John R BG NWD
Cc: [REDACTED]; Ruch, Robert J COL NWO; Blechinger, Erik T NWO;
[REDACTED]; Farhat, Jody S NWD02
Subject: Re: Vilsack trip to Hamburg, IA

Sir, Col Ruch and I are to meet with Ag Assistant Secretary John Berge tomorrow in vicinity of Omaha (0800). Will try to contact him today as well.

Clearly, Ag Dept does not have full set of facts. We're on it.

VR
Witt

Message sent via my BlackBerry Wireless Device

From: McMahon, John R BG NWD
To: Anderson, G Witt NWD
Sent: Tue Jun 14 10:20:20 2011
Subject: Fw: Vilsack trip to Hamburg, IA

Witt:
Please organize this so it doesn't turn on us--interesting how long it took them to wake up...thanks.
Vr/john

From: [REDACTED]
To: Ruch, Robert J COL NWO; L [REDACTED]; Blechinger, Erik T NWO; [REDACTED]
[REDACTED] NWO
Cc: McMahon, John R BG NWD; [REDACTED]
Sent: Tue Jun 14 10:10:17 2011
Subject: Fw: Vilsack trip to Hamburg, IA

Team; see below. Secr Ag potential visit. Question is (specifically) how we are at present interacting with Ag??

Thx, [REDACTED]

BUILDING STRONG!

[REDACTED]
USACE
Director, Contingency Op and Homeland Security
[REDACTED]

From: Kern, Dab <Dabney R Kern@nss.eop.gov>
To: [REDACTED]
Sent: Tue Jun 14 11:17:43 2011
Subject: FW: Vilsack trip to Hamburg, IA

Karen - FYSA.

USDA says they are reaching out to you all. You engaging with USDA on this?

See below.

From: Reed, Richard A.
Sent: Tuesday, June 14, 2011 11:53 AM
To: Greenawalt, Andrei; Gavin, Tom; Shapiro, Nicholas S.; Kern, Dab
Subject: RE: Vilsack trip to Hamburg, IA

Rgr, will engage with USACE to better understand the outreach plan.

From: Greenawalt, Andrei
Sent: Tuesday, June 14, 2011 11:48 AM
To: Reed, Richard A.; Gavin, Tom; Shapiro, Nicholas S.; Kern, Dab
Subject: RE: Vilsack trip to Hamburg, IA

Thanks Richard. One other separate but related note. USDA mentioned that their folks on the ground in NE are concerned about melting snowpack. USDA is reaching out to the Corps about outreach to ag producers but I wanted to make sure you had the note as well . . .

Snowpack at record levels in intermountain west. As snowpack melts and spring rains fall, reservoirs are full and water is being released to relieve pressure. Water releases are inundating towns, ag production areas, and destroying valuable infrastructure. Corps of Engineers needs to do a series of public mtgs with ag producers to fully brief them on possible scenarios. They are in the dark while making decisions with regard to inputs on crops that may ultimately be destroyed. We are looking at a potential loss of upwards of a half abillion dollars in crop losses in NE and IA alone.

From: Reed, Richard A.
Sent: Tuesday, June 14, 2011 11:26 AM

To: Greenawalt, Andrei; Gavin, Tom; Shapiro, Nicholas S.; Kern, Dab
Subject: RE: Vilsack trip to Hamburg, IA

+Kern

Thanks Andrei, no concerns from my perspective. Invite Kern to weigh in.

From: Greenawalt, Andrei
Sent: Tuesday, June 14, 2011 11:22 AM
To: Gavin, Tom; Shapiro, Nicholas S.; Reed, Richard A.
Subject: Vilsack trip to Hamburg, IA

Vilsack is thinking about going to Iowa on Friday -- to Hamburg where levees broke. USDA is going to start planning. Will make sure they are coordinating with FEMA, but let me know if you have any concerns.

[REDACTED] NWO

From: [REDACTED]
Sent: Tuesday, June 14, 2011 1:31 PM
To: [REDACTED]; Farhat, Jody S
[REDACTED]
[REDACTED]; Roger E LERH, Marchese, Vincent S LERH, Smith, Cole HAWM, [REDACTED]
[REDACTED]
Cc: [REDACTED]; Farhat, Jody S NWD02; [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
Subject: Missouri River Basin Water Management Division Situation Report of 6-14-11
(UNCLASSIFIED)
Attachments: Missouri River Basin Water Management Situation Report 6-14-11.docx

Classification: UNCLASSIFIED
Caveats: NONE

Kim/[REDACTED]

Today's NWD Water Management situation report is attached.

[REDACTED]
Missouri Basin Water Managment Division
Northwestern Division
Corps of Engineers
[REDACTED]
[REDACTED]

Classification: UNCLASSIFIED
Caveats: NONE

Missouri River Basin Water Management Situation Report – 6-14-11

Reservoir Conditions

The upper three reservoirs of the Missouri River Mainstem Reservoir System provide the bulk of the storage of water. All three are in their exclusive flood control zones, with Fort Peck passing its spillway crest (continuing up on raised spillway gates) and the other two being near their spillway crests. Table 1 summarizes the situation as of 0000 hours this morning. Relatively high inflows continue to occur into Fort Peck Reservoir and have increased into Garrison Reservoir from primarily rains earlier in the week. More details on the reservoirs can be found on the daily bulletin prepared by the Missouri River Basin Water Management Division at: <http://www.nwd-mr.usace.army.mil/rcc/reports/showrep.cgi?4BULLOMR1>.

Table 1. Key Reservoir Data (through 0000 hrs 6/14/11)

Reservoir	Inflow kcfs	Outflow kcfs	Top of Spillway	Current Level feet msl	24-hr Change feet
			Gates feet msl		
Fort Peck	86.0	65.4	2250	2252.1	0.2
Garrison	190.0	138.7	1854	1853.4	0.0
Oahe	145.0	150.4	1620	1618.6	0.3
Big Bend	151.0	145.9	1423	1419.9	-0.2
Fort Randall	163.0	139.2	1375	1363.1	0.6
Gavins Point	145.0	144.8	1210	1207.3	-0.1

Based on the current level data on the upper three reservoirs, the amount of remaining storage has been changing in its distribution among the upper three, larger reservoirs. Fort Peck has become more negative as water is stored higher on the raised spillway gates (surcharged above exclusive flood control). With the increased releases from Fort Peck and the increase in tributary inflows, Garrison Reservoir is rising and will be going into surcharge over the next week and a half. Oahe will not be surcharged because there are no plans at this time to use its spillway, which would result in the raised gates and the potential to surcharge that reservoir. The lower three reservoirs have much less capability to store the inflows that are coming into the Missouri River Mainstem Reservoir System, with Fort Randall Reservoir having the greater amount. As of today, the stored water has not yet entered the exclusive flood control zones of the three smaller reservoirs; therefore, 100 percent of their exclusive flood control storage remains available. Table 2 summarizes the storage volumes of all six System reservoirs, with the last column listing the amount of exclusive flood control storage that remains as of today. Spillways are now being used at five of the six reservoirs, with no plans to use the Oahe spillway at this time.

Table 2. Reservoir Storage Data (through 0000 hrs 6/14/11)

Reservoir	Current	Total	Remaining	Exclusive	% Excl Left
	kAF	kAF	kAF	kAF	
Fort Peck	18,985	18,463	-522	971	-54
Garrison	23,572	23,821	249	1,489	17
Oahe	22,580	23,137	557	1,102	51
Big Bend	1,614	1,798	184	60	100
Fort Randall	4,253	5,418	1,165	985	100
Gavins Point	376	450	74	57	100

Releases from all six reservoirs are currently exceeding records prior to 2011. Table 3 provides release data for all six reservoirs to provide some perspective on the changes that will be happening over the next 2 weeks. Note that the release from Fort Peck has been increased to 65 kcfs today and will be held at that level for some of the next week before it is returned to 60 kcfs. Other than that, the releases 1 week out will be at the currently anticipated maximum releases at the other five reservoirs, with Gavins Point joining Oahe and Big Bend at 150 kcfs today. A full listing of the data through mid-July is available at: <http://www.nwd-mr.usace.army.mil/rcc/reports/twout.html>.

Table 3. Reservoir Release Comparisons (through 0000 hours 6/14/11)

Reservoir	Yesterday	Forecast	7 days out	14 days out	Pre-2011
	kcfs	Today	20 June	27 June	Record
	kcfs	kcfs	kcfs	kcfs	kcfs
Fort Peck	65.4	65	60	60	35
Garrison	138.7	140	150	150	65
Oahe	150.4	150	150	150	59
Big Bend	145.9	150	150	150	74
Fort Randall	139.2	143	148	148	67
Gavins Point	144.8	150	150	150	70

River Conditions

Levees have been or are currently being constructed by the Corps at numerous locations, resulting primarily from the releases from Garrison, Oahe, and Gavins Point Dams. Many communities along the lower Missouri River are currently experiencing Missouri River flows that are above flood stage by several feet. The flood stages currently being experienced will be exceeded as Missouri River Mainstem Reservoir System releases increase over the next few weeks to pass the anticipated inflows from mountain snowpack runoff and heavy rains in the Missouri River basin. Table 4 summarizes the current conditions as of 0600 hours this morning and the Corps' current forecast for crest stages. Note that the stage at Pierre is currently just above the forecasted crest elevation for the current upstream release of 150 kcfs.

Table 4. Missouri River Stage Data for 6/14/11 at 0600 CDT

Location	Flood Stage	Current Stage	Forecast Crest Stage	Date of Crest Stage
Bismarck, ND	16	18.1	20-21	mid-Jun
Pierre, SD	13	18.8	18.7	mid-Jun
Sioux City, IA	30	33.3	35-37	mid-Jun thru July
Decatur, NE	35	37.5	40-42	mid-Jun thru July
Omaha, NE	29	32.7	34-36	mid-Jun thru July
Nebraska City, NE	18	24.9	27-28+	mid-Jun thru July
St. Joseph, MO	17	23.2	27-32	mid-Jun thru July
Kansas City, MO	32	24.9	30-39	mid-Jun thru July
Waverly, MO	20	23.7	27-31	mid-Jun thru July
Boonville, MO	21	21.6	27-33	mid-Jun thru July
Hermann, MO	21	21.9	27-33	mid-Jun thru July

Figures 1 and 2 present the plots of the 0600 hour stages at Bismarck and Pierre, respectively. The stages at Bismarck have not reached the initial estimated levels as the Garrison Reservoir releases have increased. The reduction is likely due to the scouring of the channel as the flows are well above the levels in recent years. The stages at Pierre have closely followed the estimated levels, being just slightly over the initial estimate for crest elevation, as the upstream Oahe Reservoir releases have reached the 150-kcfs level. The stages at both cities are still 3 to 4 feet below the constructed levee crests.

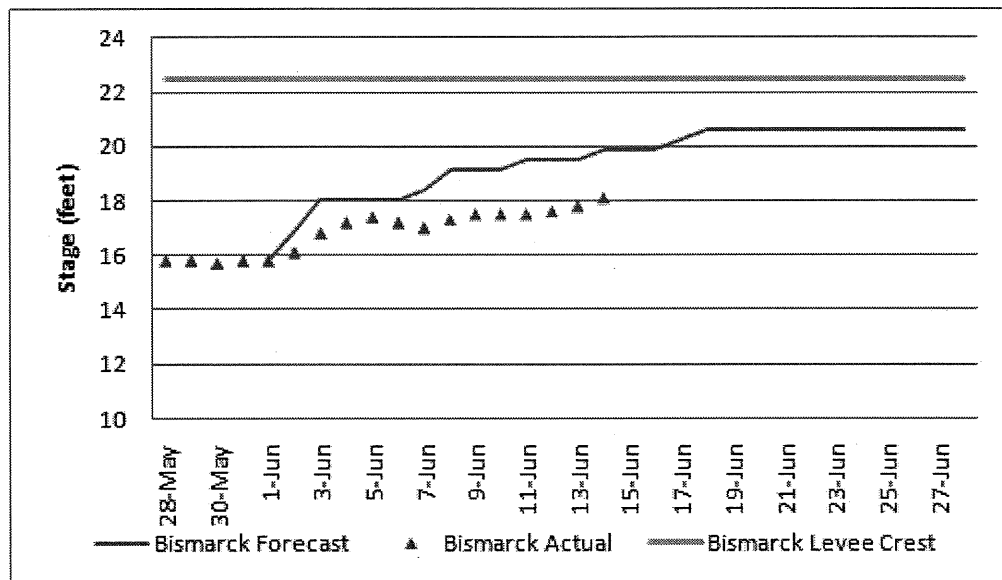


Figure 1. Missouri River stages at Bismarck, North Dakota.

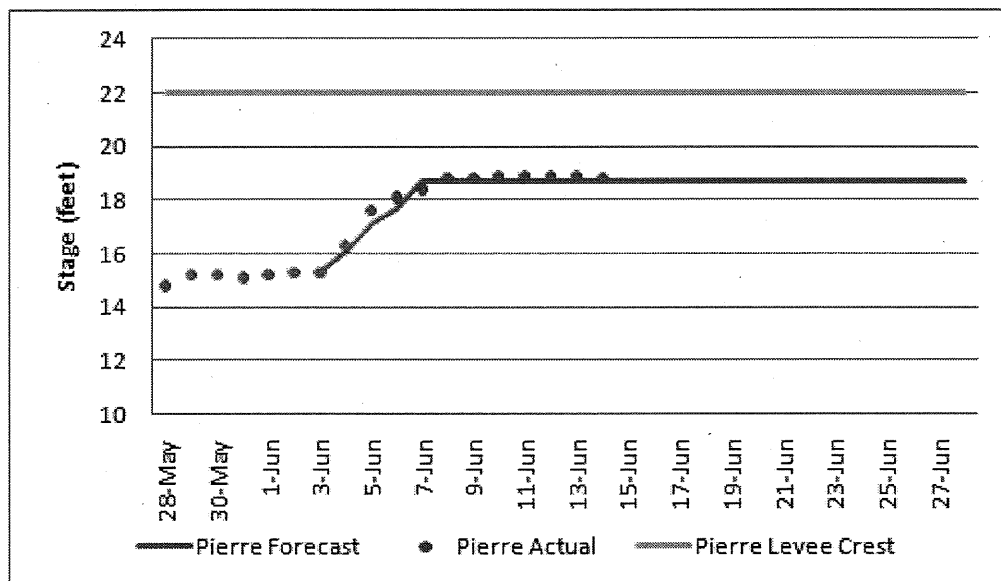


Figure 2. Missouri River stages at Pierre, South Dakota.

Information on Current Mountain Snowpack and Forecasted Rainfall

Releases from the System reservoirs are based on snowpack and rainfall forecasts in the Missouri River basin. An updated snowfall forecast has not yet been prepared today; however, the Hydrologic Prediction Center (HPC) of NOAA prepares a rainfall forecast daily for up to the next 5 days, with an accumulated figure also presented on its website. The next 5 days do not look good as widespread rain is forecasted for much of the Missouri River Basin, including heavier rainfall in North Dakota, South Dakota, and in a large area of the lower basin. Figure 3 is the accumulated 5-day rainfall forecast for today by HPC, and Figure 4 is yesterday's mountain snowpack update by the Corps.

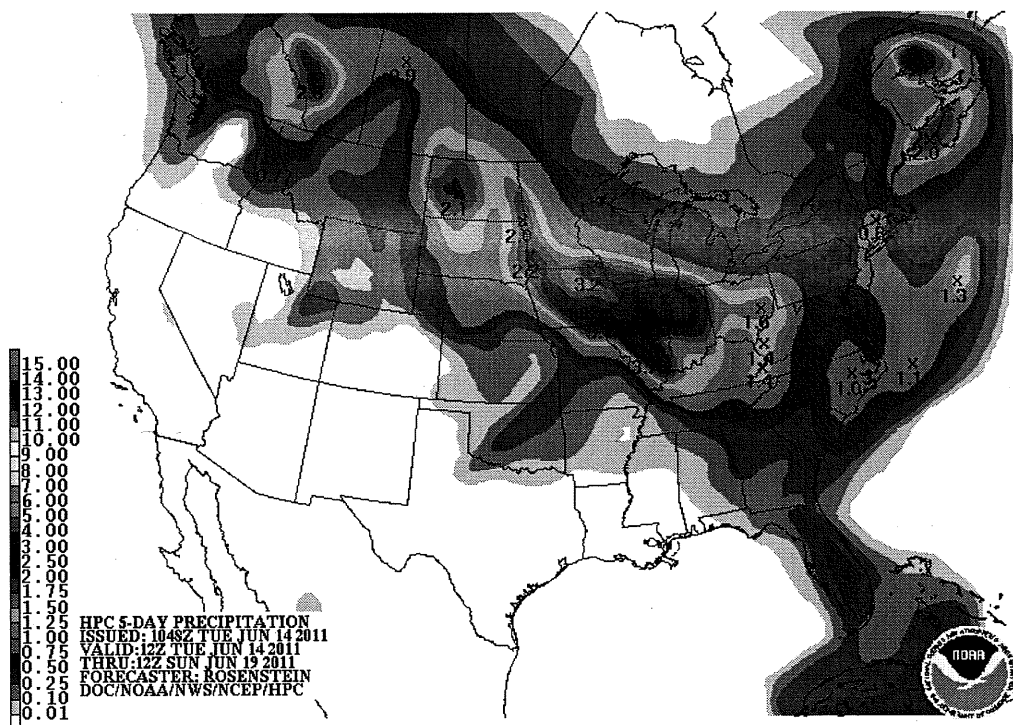


Figure 3. 5-day total QPF ending 0700 Sunday, June 19, 2011.

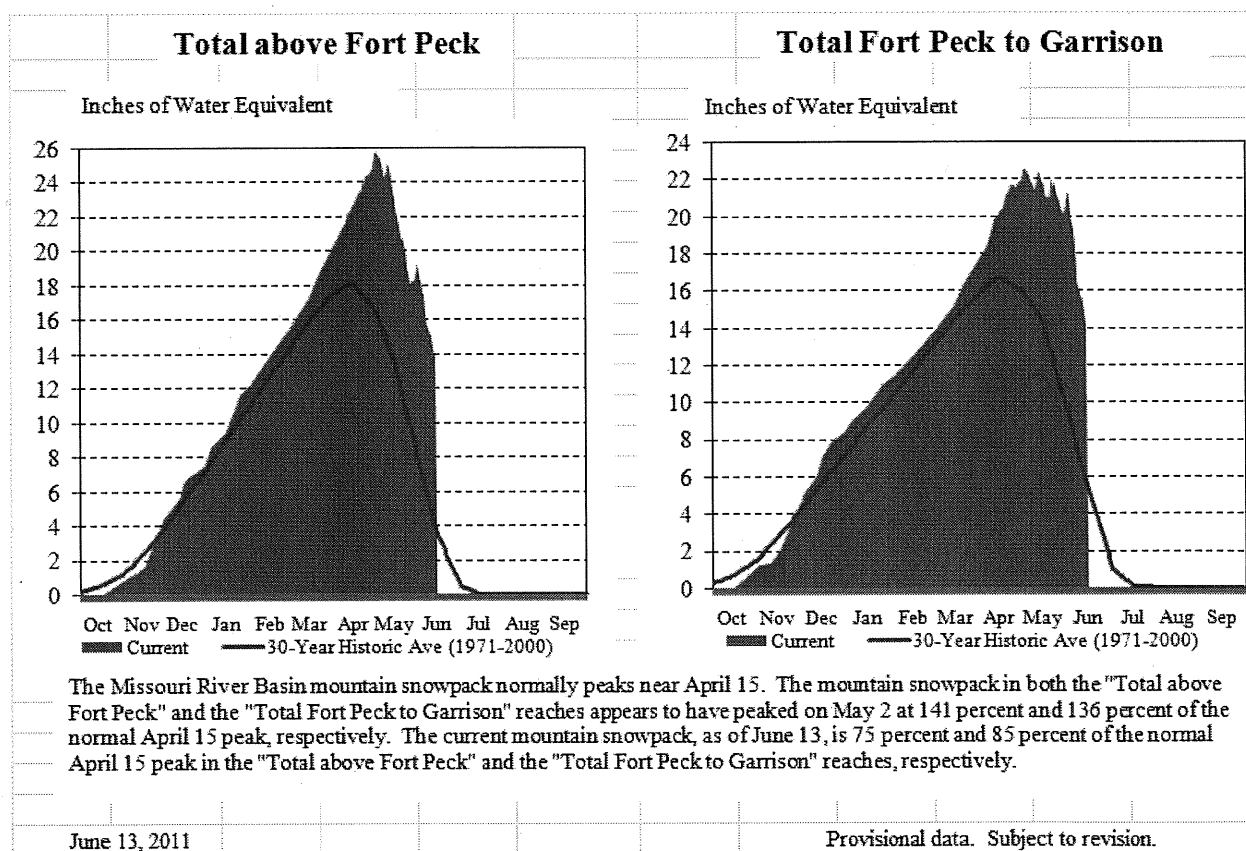


Figure 4. Missouri River basin mountain snowpack water content summary, 2010-2011 – June 13, 2011.

Current Actions and Notable Information

Levee construction for six cities is basically completed to prepare for the high flows on the Missouri River that will result from the releases from the Missouri River Mainstem System reservoirs. The Omaha District has been working with the cities of Bismarck/Mandan, ND, Pierre/Ft. Pierre, SD, Dakota Dunes, SD, and South Sioux City, NE to construct levees to limit flood impacts to those cities. Floodplain evacuations have been ongoing for many lower-lying areas along the lower Missouri River. A levee is also currently being constructed to protect Hamburg, Iowa. A full breach of a 10- to 15-foot section of the L-575 levee occurred June 13 as a result of the fourth slump in the past 2 weeks. The Hamburg levee is currently anticipated to be completed by Friday, June 17. A required closure structure is currently being placed. Also, this failure is expected to result in the closure of Interstate 29, making this major north-south highway closed above and below Omaha, Nebraska. The failure of this levee occurred at river stages just under the maximum stage in 2010.

Figure 5 is a plot showing the Nebraska City (just across the river from the upper reaches of L-575) 0600 stages for 2010 and 2011 (through today), both years with high river stages. This figure shows that the river level is getting very close to the 2010 maximum (still 0.24 feet below).

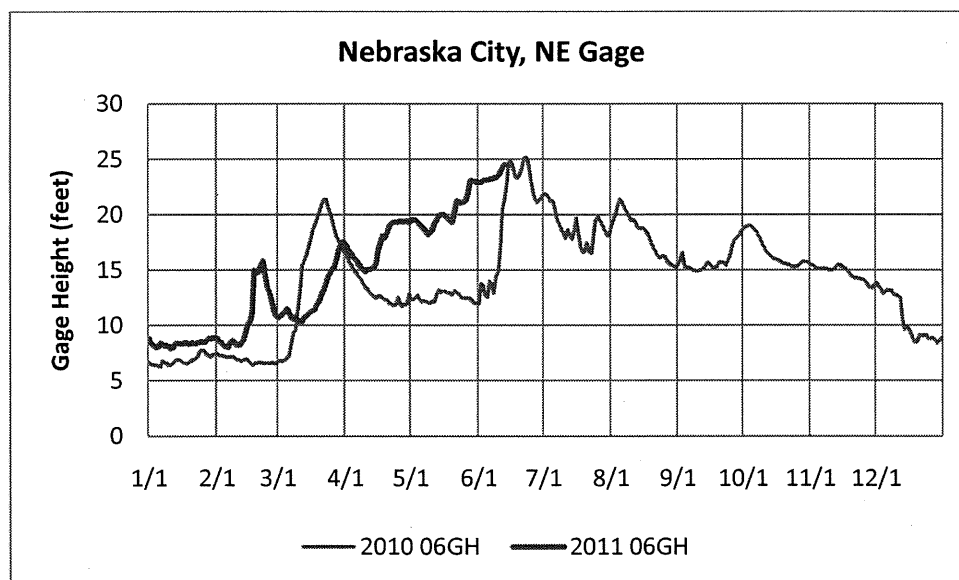


Figure 5. River stages at Nebraska City, Nebraska for 2010 and 2011.

A second levee failed at Big Lake, Missouri yesterday. This location is approximately midway between the gages at Rulo, Nebraska and St. Joseph, Missouri. The gage plots for those two locations look similar to the Nebraska City gage plot, except the maximum 2010 stages are 2.0 and 2.8 feet higher than the current gage heights at Rulo and St. Joseph respectively. Another factor besides only gage height appears to be playing a role in the failure of this levee as well as the levee near Hamburg.

Eastern Montana and northern Nebraska experienced heavy rains yesterday and over night. Runoff from the Montana rainfall will drain primarily into Garrison Reservoir, and runoff from the more northern part of Nebraska will drain primarily into Gavins Point Reservoir with some potentially going

into Fort Randall Reservoir. Figure 6 shows the amount of rain that fell in the basin and surrounding area of the Central Region of the United States.

NWS Central Region: Current 1-Day Observed Precipitation
Valid at 6/14/2011 1200 UTC- Created 6/14/11 13:41 UTC

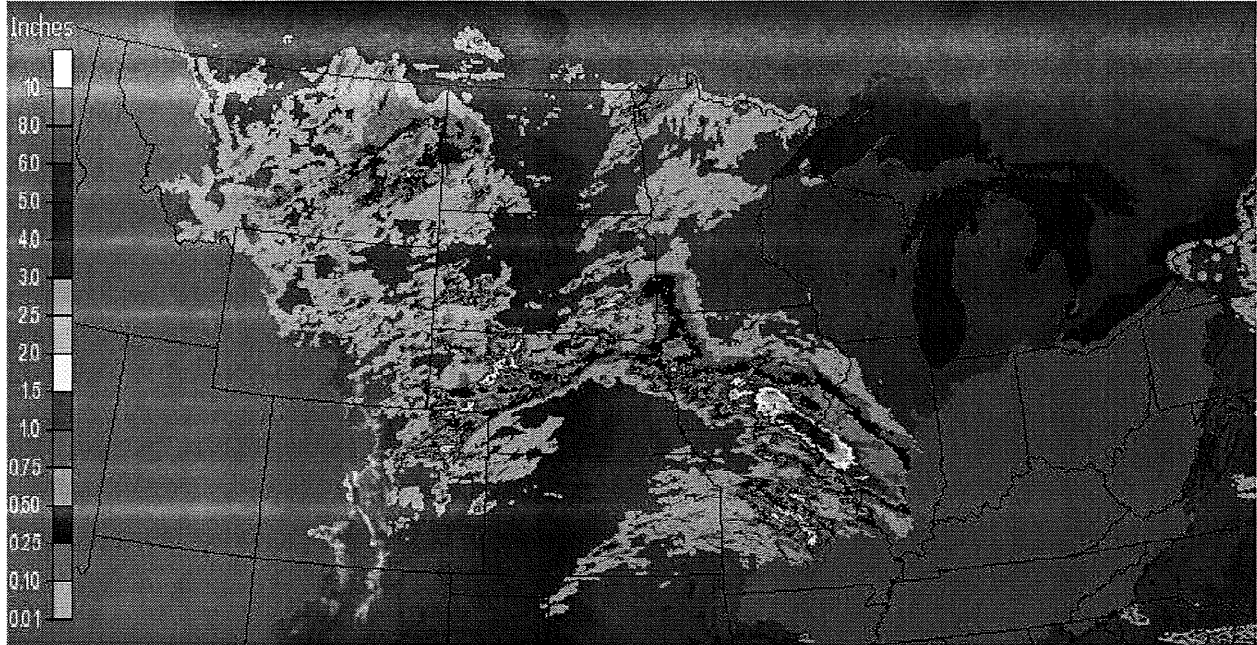


Figure 6. Rainfall on the Central Region of the United States for June 14, 2011.

[REDACTED] NWO

From: Hofmann, Anthony J COL NWK
Sent: Tuesday, June 14, 2011 1:00 PM
To: Farhat, Jody S NWD02
Subject: Upper basin summary

Jody-

I was just invited to a "tele" Town Hall call-in with the state of Kansas (Cong Jenkins/Gov Brownback) scheduled for tomorrow.

In it, various federal agencies will field calls from constituents. One of the things they want agencies to provide is a summary of current conditions.

Wondering if you have any prepared statements already complete as to what has transpired in the upper basin and how conditions are what they are. I have PPT and can formulate my own if necessary, but figured I'd ask you. That will keep us all consistent as well.

Thanks in advance--if you don't already have I can piecemeal all information and talk it.
V/r,
COL H

Building Strong!

Colonel Anthony J. Hofmann, PMP
Commander, Kansas City District
U.S. Army Corps of Engineers

[REDACTED]
[REDACTED]
<http://www.nwk.usace.army.mil/>

NWO

From: [REDACTED]
Sent: Tuesday, June 14, 2011 12:50 PM
To: [REDACTED] Farhat, Jody S NWD02; [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
Cc: [REDACTED]
Subject: FW: Ameristar Pics (UNCLASSIFIED)
Attachments: Ameristar1.jpg; Ameristar2.jpg; Ameristar3.jpg; Ameristar4.jpg; Ameristar5.jpg;
Ameristar6.jpg; Ameristar7.jpg

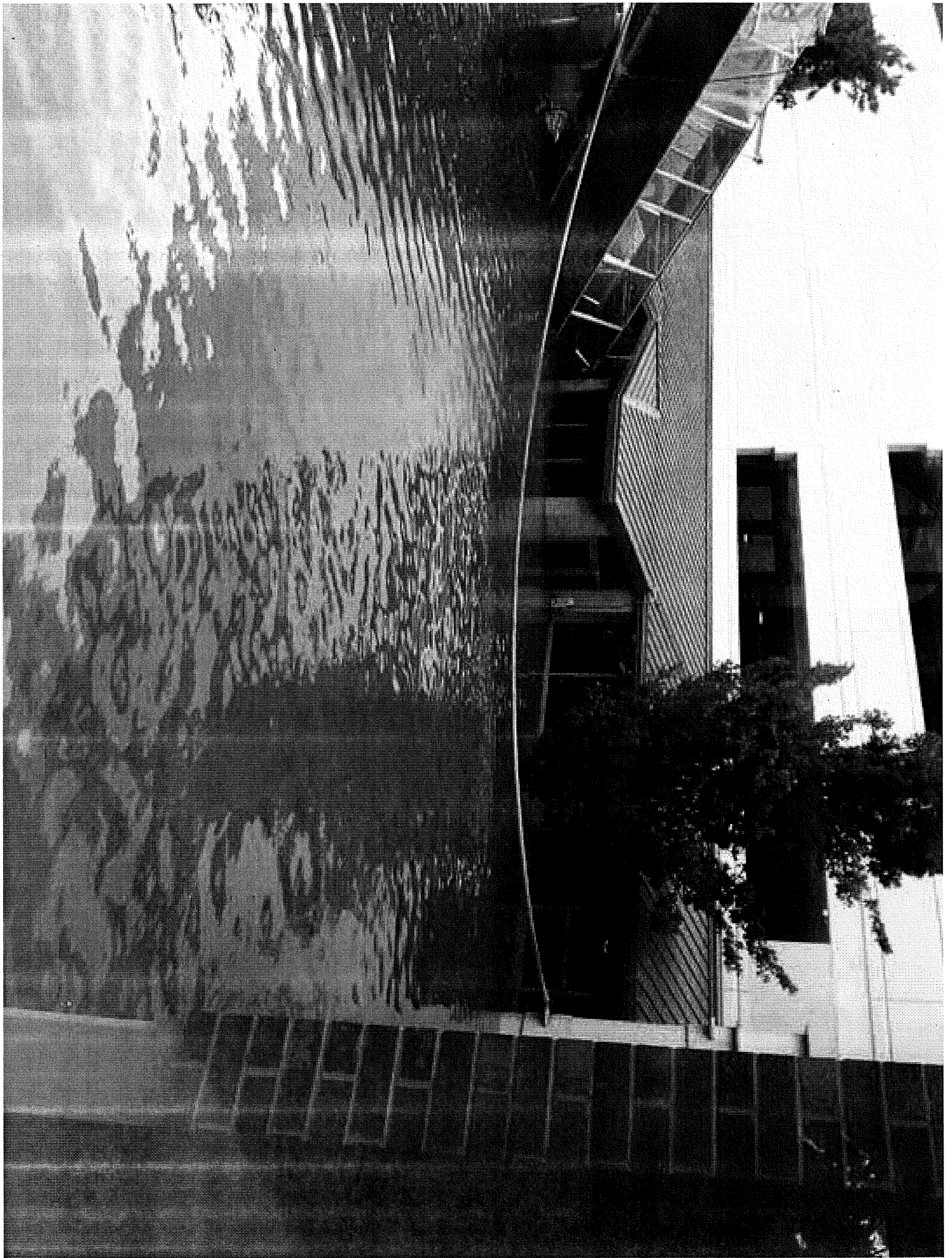
Classification: UNCLASSIFIED

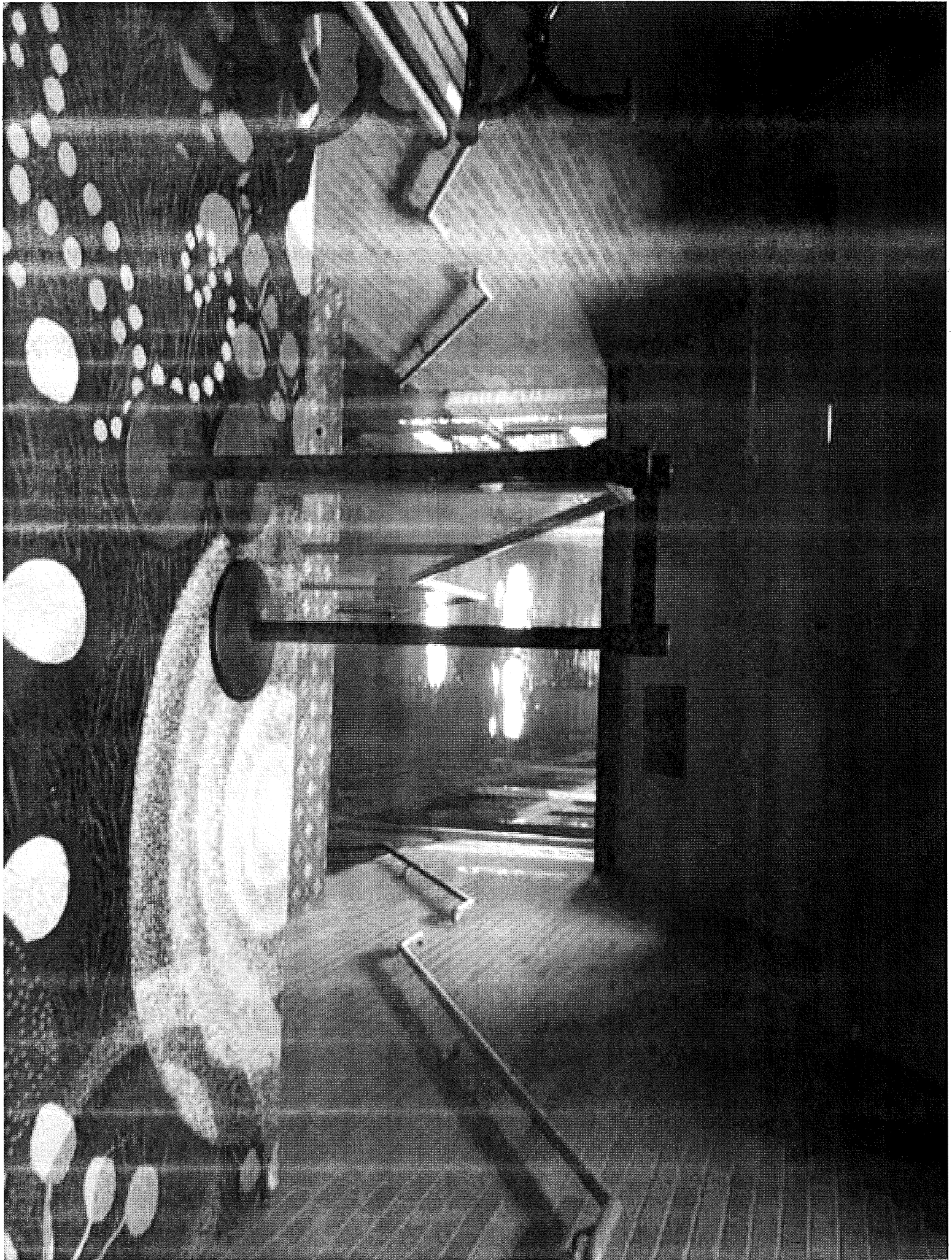
Caveats: NONE

Here are some pictures of the flood at Ameristar.

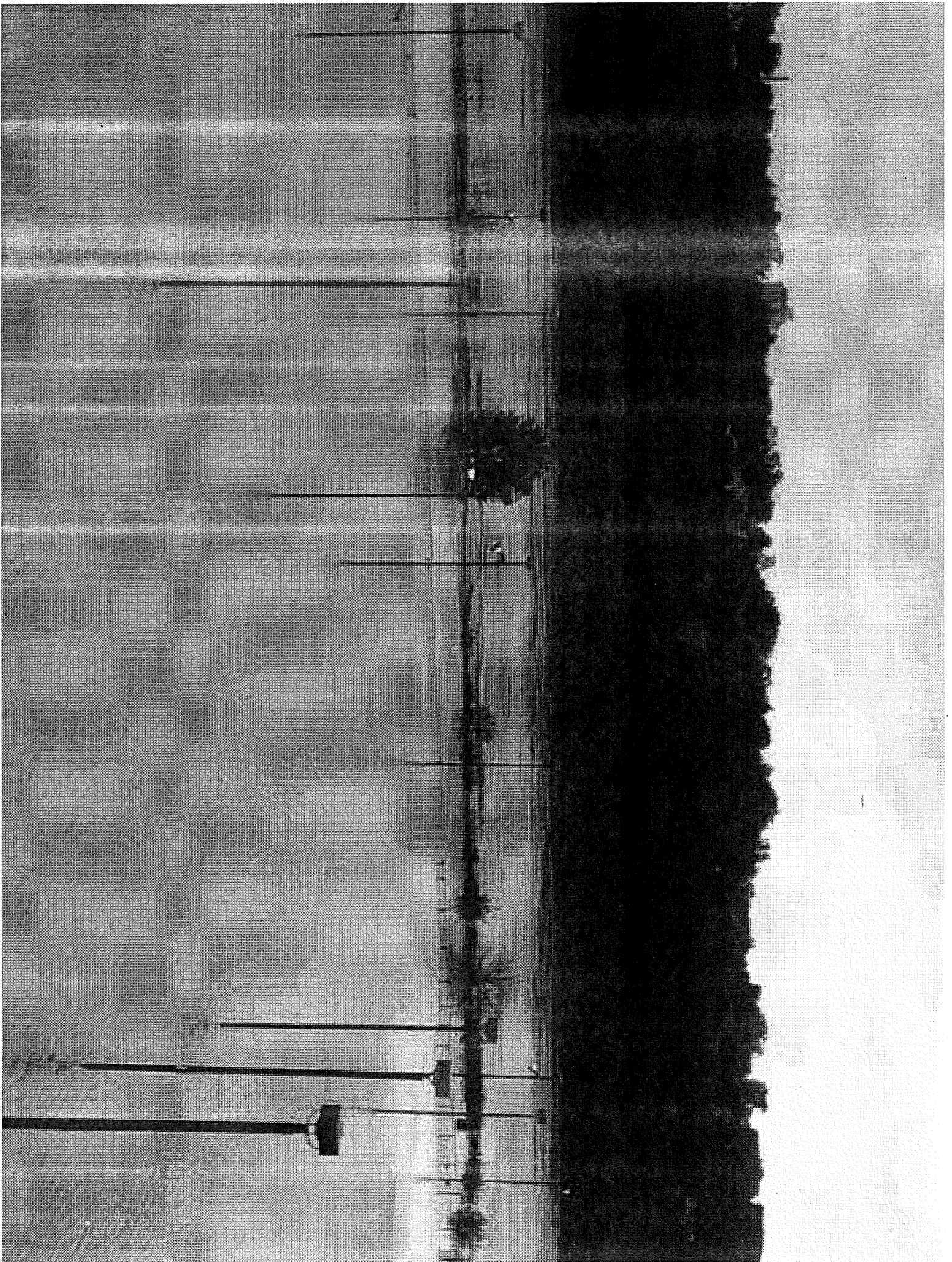
Classification: UNCLASSIFIED

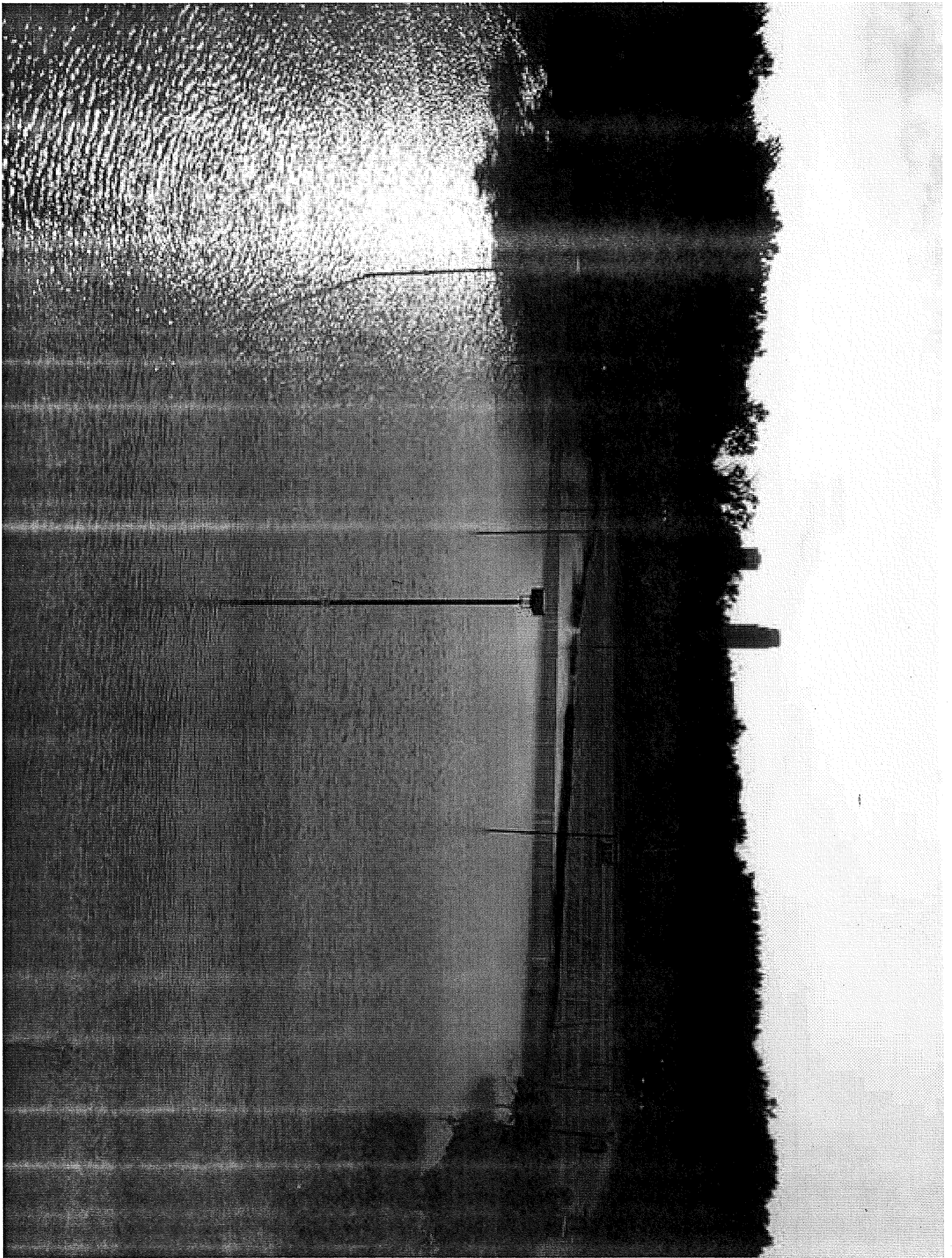
Caveats: NONE

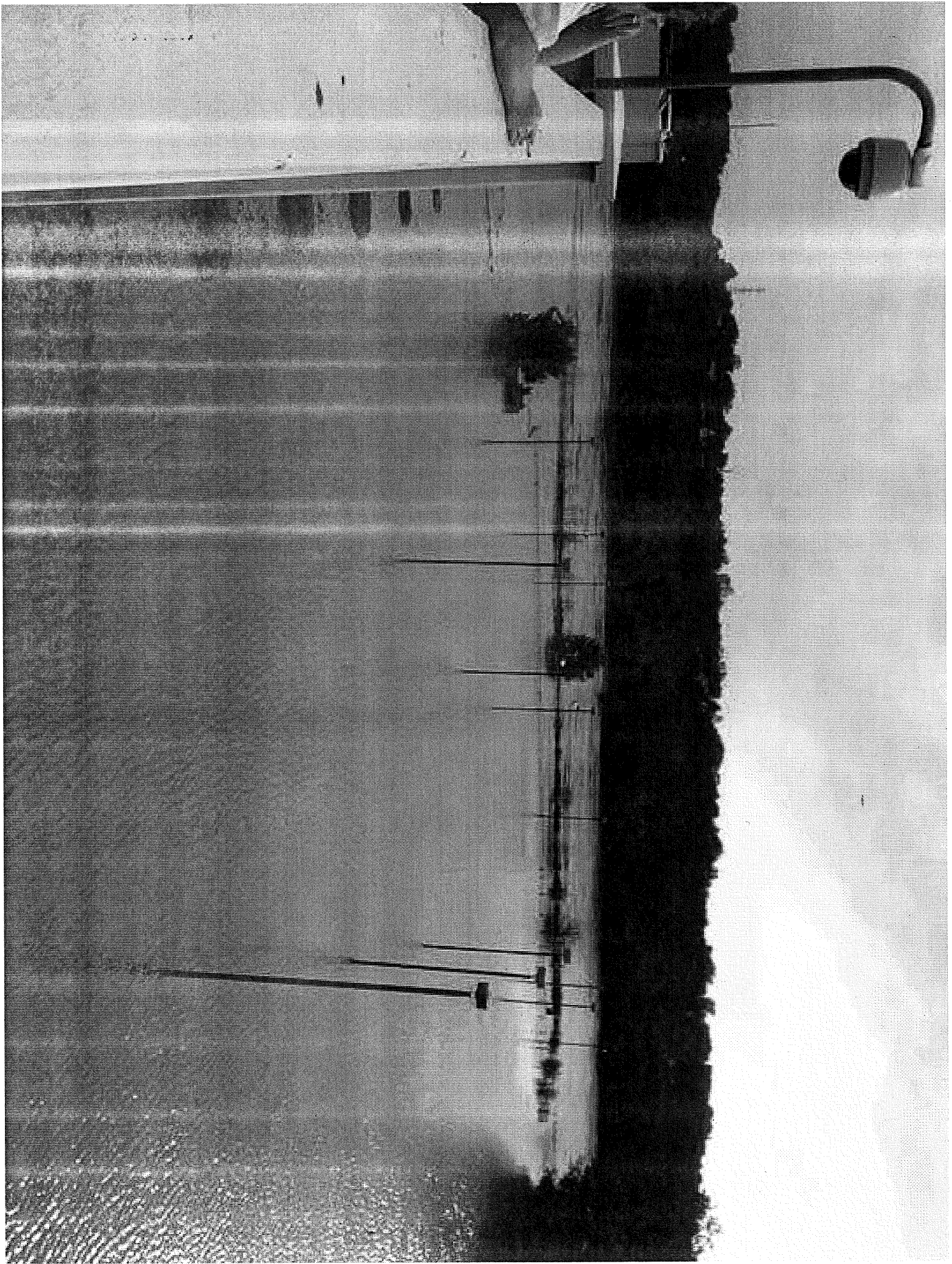


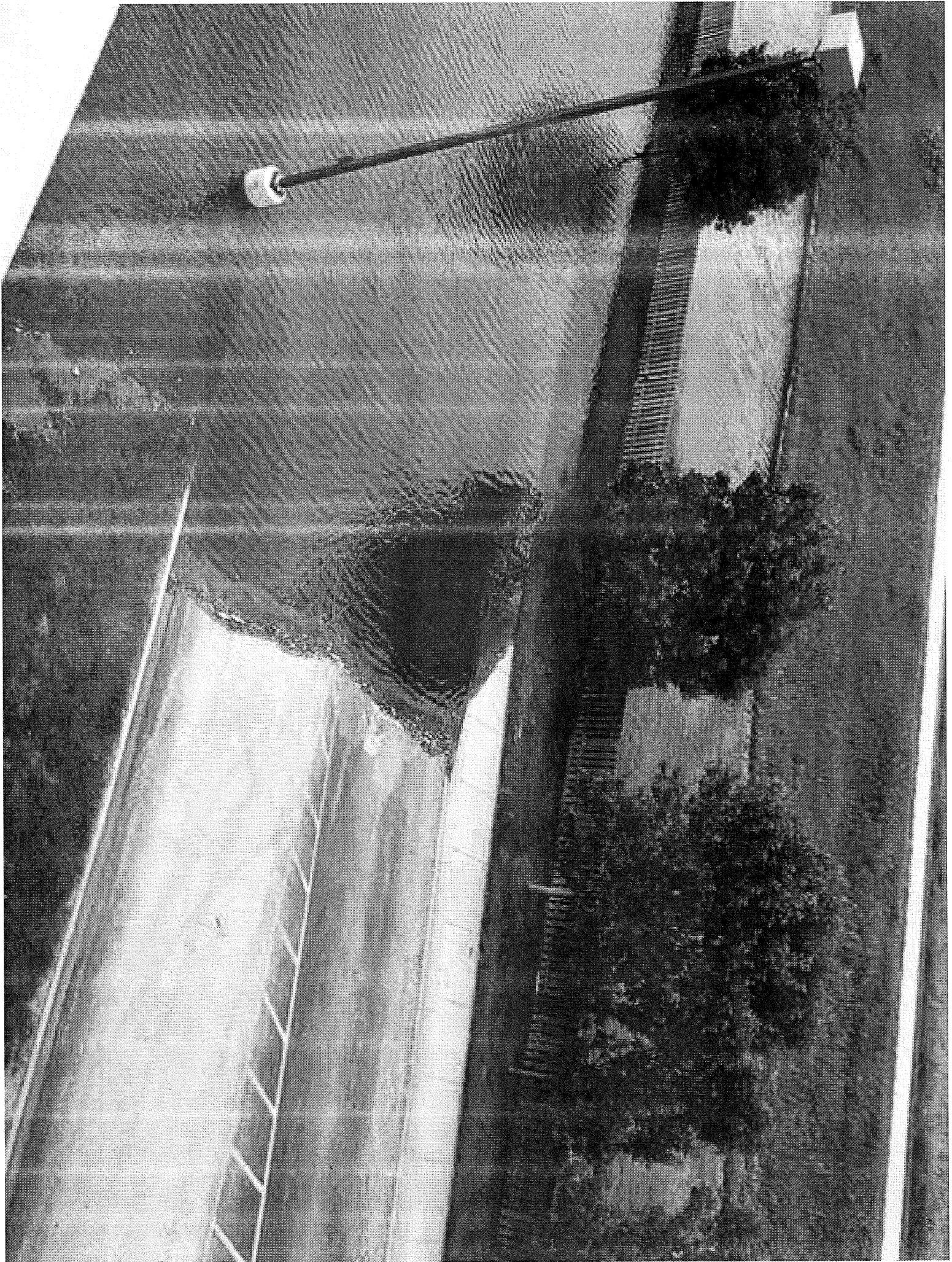












[REDACTED] NWO

From: Anderson, G Witt NWD
Sent: Tuesday, June 14, 2011 12:43 PM
To: Blechinger, Erik T NWO; Ruch, Robert J COL NWO
Cc: Farhat, Jody S NWD02
Subject: Fw: Vilsack trip to Hamburg, IA

Message sent via my BlackBerry Wireless Device

From: Anderson, G Witt NWD
To: McMahon, John R BG NWD
Sent: Tue Jun 14 10:41:56 2011
Subject: Re: Vilsack trip to Hamburg, IA

Will do Sir. At Hamburg now with Bob, Erik and Kim. Very impressive production underway.
Looks good.

Witt

Message sent via my BlackBerry Wireless Device

From: McMahon, John R BG NWD
To: Anderson, G Witt NWD
Sent: Tue Jun 14 10:20:20 2011
Subject: Fw: Vilsack trip to Hamburg, IA

Witt:
Please organize this so it doesn't turn on us--interesting how long it took them to wake
up...thanks.
Vr/john

From: [REDACTED]
To: Ruch, Robert J COL NWO; [REDACTED]; Blechinger, Erik T NWO; [REDACTED],
[REDACTED] NWO
Cc: McMahon, John R BG NWD; [REDACTED]
Sent: Tue Jun 14 10:10:17 2011
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Team; see below. Secr Ag potential visit. Question is (specifically) how we are at present
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Thx, [REDACTED]

BUILDING STRONG!

[REDACTED]
USACE

Director, Contingency Op and Homeland Security
[REDACTED]

From: Kern, Dab <Dabney R Kern@nss.eop.gov>
To: [REDACTED]
Sent: Tue Jun 14 11:17:43 2011
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Karen - FYSA.

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See below.

From: Reed, Richard A.
Sent: Tuesday, June 14, 2011 11:53 AM
To: Greenawalt, Andrei; Gavin, Tom; Shapiro, Nicholas S.; Kern, Dab
Subject: RE: Vilsack trip to Hamburg, IA

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Sent: Tuesday, June 14, 2011 11:48 AM
To: Reed, Richard A.; Gavin, Tom; Shapiro, Nicholas S.; Kern, Dab
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Thanks Richard. One other separate but related note. USDA mentioned that their folks on the ground in NE are concerned about melting snowpack. USDA is reaching out to the Corps about outreach to ag producers but I wanted to make sure you had the note as well . . .

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Subject: RE: Vilsack trip to Hamburg, IA

+Kern

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To: Gavin, Tom; Shapiro, Nicholas S.; Reed, Richard A.
Subject: Vilsack trip to Hamburg, IA

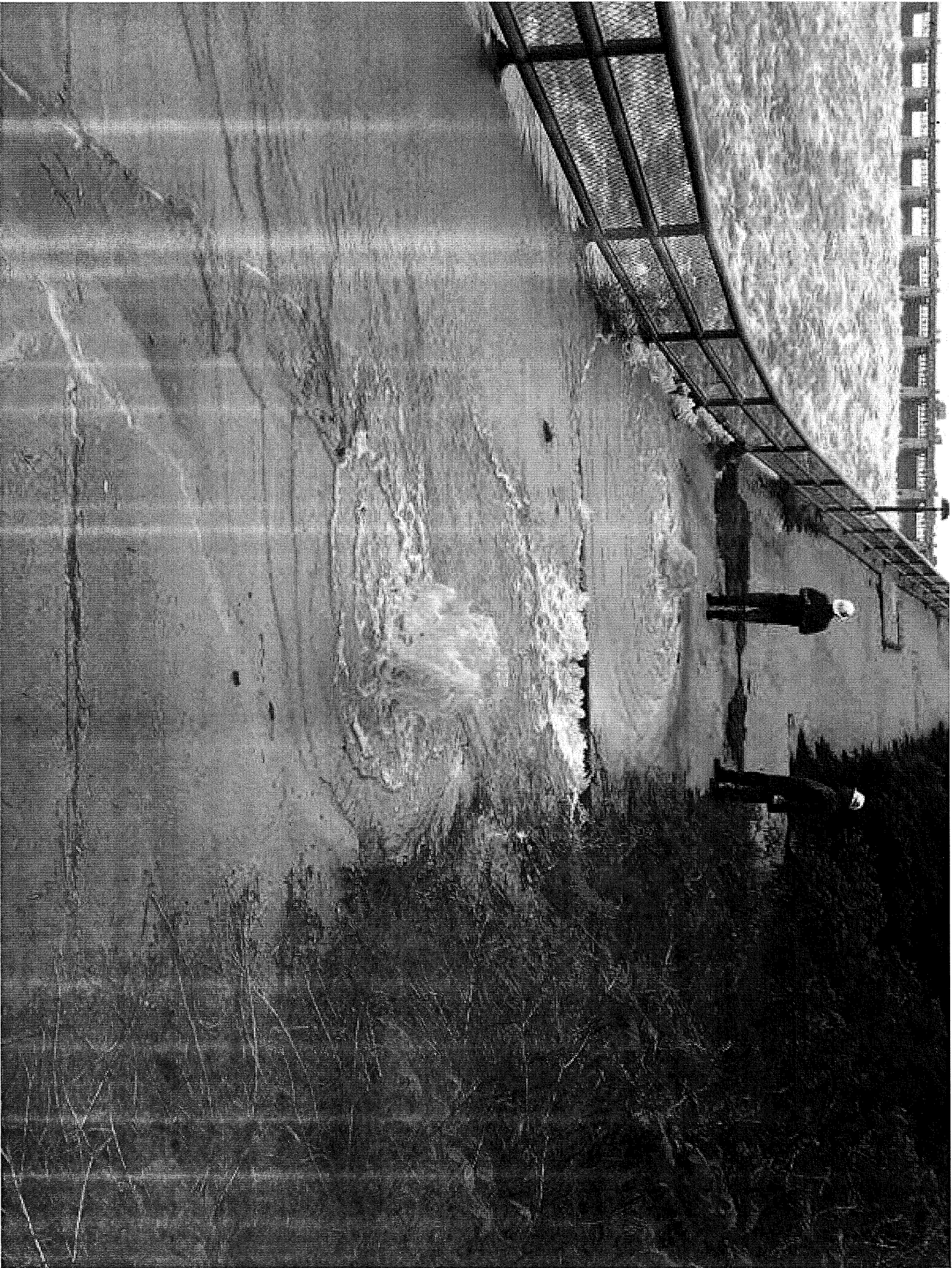
Vilsack is thinking about going to Iowa on Friday -- to Hamburg where levees broke. USDA is going to start planning. Will make sure they are coordinating with FEMA, but let me know if you have any concerns.

From: [REDACTED]
Sent: Tuesday, June 14, 2011 11:47 AM
To: [REDACTED]; Farhat, Jody S NWD02; [REDACTED]
Subject: FR Spillway
Attachments: IMG00033-20110614-1035.jpg; IMG00034-20110614-1035.jpg;
IMG00035-20110614-1036.jpg

We are shutting down the spillway and moving flow to outlet works. We need to come off of agc for awhile. May be able to open a couple spillway gates and adjust for power load from there.







[REDACTED] NWO

From: [REDACTED]
Sent: Tuesday, June 14, 2011 11:09 AM
To: Farhat, Jody S NWD02
Subject: RE: End of Release Question (UNCLASSIFIED)

Okay - that is helpful. Thanks!

-----Original Message-----

From: Farhat, Jody S NWD02
Sent: Tuesday, June 14, 2011 11:08 AM
To: [REDACTED]
Subject: RE: End of Release Question (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

[REDACTED] we don't have a specific plan yet, but it will most likely involve ramping down at a controlled rate over a week or two at a minimum.

Jody

-----Original Message-----

From: [REDACTED]
Sent: Tuesday, June 14, 2011 10:28 AM
To: Farhat, Jody S NWD02
Subject: End of Release Question

Hi Jody,

I'm a hydrologist with Kansas City District currently serving as a liaison with FEMA region VII. The question has been posed of when this big release on Gavins are nearing the end (mid August or whenever), what will be the plan to wind down releases? Will it be a gradual transition to lesser release amounts, like we've been doing as we ramp up, or will it just be sharply reducing amounts over a shorter period of time until the minimum is achieved?

Thank you for your help,

[REDACTED]
[REDACTED]
[REDACTED]
U.S. Army Corps of Engineers

Kansas City District
[REDACTED]

F [REDACTED]

Classification: UNCLASSIFIED

Caveats: NONE

NWO

From: Doug Kluck [doug.kluck@noaa.gov]
Sent: Tuesday, June 14, 2011 10:36 AM
To: Sarah Palmer
Cc: Bridget Radcliff; Craig.Derickson@ne.usda.gov; Barnes, Verlon; stas@wapa.gov; Hofmann, Anthony J COL NWK; Ruch, Robert J COL NWO; Blechinger, Erik T NWO; I [REDACTED]; [REDACTED]; Farhat, Jody S NWD02; [REDACTED]; [REDACTED]; wayne_nelsonstastny@fws.gov; rhonda.knudsen@bia.gov; steven_mietz@nps.gov; lleake@usgs.gov; mrolsen@usbr.gov; depperly@usbr.gov; dfritz@usbr.gov; Don_Simpson@blm.gov; Tony_Herrell@blm.gov; ssbrooks@blm.gov; theresa_hanley@blm.gov; brian.yanchik@dot.gov; cothern.joe@epa.gov; berkley.jim@epa.gov; Andrea Ray
Subject: Economic Aspects of the Missouri River (flooding, drought and normal)

Hi Everyone,

Excuse me for using this list but I thought you all might be a good starting point for this request. Basically we are looking for someone (fed, academic, private enterprise, tribal, state) that has a handle on some of the economic impacts of the river for both flood, drought and normal water. We are looking for them to participate on a panel in Boulder, CO I believe on 8/11/11 (same day as MRBIR). It would be okay to have specific private interests come even if geographically limited interests.

I do know a few of the private-side folks that serve on the MRRIC and could reach out to them but would like to get your input first. If there are federal agencies interested in participating or simply attending that would be great too.

Meeting Info:

"AMS summer meeting in Boulder, 2011 AMS Summer Community Meeting "BUILDING A STRONGER WEATHER AND CLIMATE ENTERPRISE: Keeping the Economy Moving" 8-11 August 2011 @ NCAR Center Green. Meeting info: <http://goo.gl/7bJdR>"

The session title is: "Delivering Hydroclimate information from Days to Decades,"

Thanks for any suggestions you might have and please respond back to me and Andrea (andrea.ray@noaa.gov)

Doug

On 6/13/2011 6:44 PM, Sarah Palmer wrote:

Dear Planning Committee (PC) members,

Attached for your review is the summary from the May 19, 2011 PC call. Please let Bridget or me know if you have any revisions and/or corrections.

Also attached is the straw agenda for the August 11 MRBIR executives meeting. The agenda incorporates PC member input during the last call. We will discuss the straw agenda, as well as the meeting itself on Thursday's call.

Please contact me if you have any questions or concerns.

Thanks,
Sarah

Sarah Palmer
Senior Program Manager
U.S. Institute for Environmental Conflict Resolution
130 South Scott Avenue, Tucson, AZ 85701
Direct Telephone: 520.901.8556 Fax: 520.901.8557 Cell: 520.940.3857
Email: palmer@ecr.gov Website: www.ecr.gov <<http://www.ecr.gov/>>

From: Bridget Radcliff
Sent: Friday, June 10, 2011 11:23 AM
To: Craig.Derickson@ne.usda.gov; verlon.barnes@ne.usda.gov; Doug.kluck@noaa.gov;
stas@wapa.gov; [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED] wayne_nelsonstastny@fws.gov;
rhonda.knudsen@bia.gov; steven_mietz@nps.gov; lleake@usgs.gov; mrolsen@usbr.gov;
depperly@usbr.gov; dfritz@usbr.gov; Don_Simpson@blm.gov; Tony_Herrell@blm.gov;
ssbrooks@blm.gov; theresa_hanley@blm.gov; brian.yanchik@dot.gov; cothern.joe@epa.gov;
berkley.jim@epa.gov
Cc: Sarah Palmer
Subject: MRBIR Planning Committee Call June 16 10.00-11.00 Central

Dear MRBIR Planning Committee Members:

The next MRBIR Planning Committee call is scheduled for one hour on Thursday, June 16 from 10.00-11.00AM Central.

[REDACTED]
[REDACTED]
The proposed call agenda is below and the agenda overview for the August MRBIR Meeting is attached. Please consult with your executives prior to the call regarding their availability for the August 11, 2011 meeting. We understand that agency staff are under a great deal of stress in light of the flooding and we want to gauge anticipated attendance for the August meeting.

Proposed Call Agenda

Welcome - Dan Fritz, Rae Olsen Bureau of Reclamation

Updates from Agencies Regarding Flooding Operations - all

Discussion of August 11, 2011 MRBIR Meeting in Denver

Confirmation from PC members re executive's attendance

Review of draft agenda, incorporating PC member input from last call

Topic Team Activities between June and August - what's feasible?

Next Planning Committee Call: July 21, 2011 10.00-11.00 Central

Please let Sarah or I know if you have any questions. If you are unable to participate in the call please email Bridget (Radcliff@ecr.gov) by COB Wednesday, June 15.

Thanks,

Bridget and Sarah

Bridget Radcliff

Coordinator for ECR Support Programs

Udall Foundation, US Institute for Environmental Conflict Resolution

130 S Scott Ave

Tucson, AZ 85701

Email: radcliff@ecr.gov <mailto:radcliff@ecr.gov>
<http://www.ecr.gov/>

Website: www.ecr.gov

Phone: (520) 901-8572

Fax: (520) 901-8573

CONFIDENTIALITY NOTICE: This email may contain dispute resolution information protected as confidential by the Administrative Dispute Resolution Act, 5 U.S.C. § 571 et seq. and which should only be shared with appropriate participants in the dispute resolution proceeding. If you received the message in error, please notify the sender immediately.

--

Doug Kluck

Central Region Climate Services Director 7220 NW 101st Terrace Kansas City, MO

O: 816-994-3008

[REDACTED] NWO

From: [REDACTED]
Sent: Tuesday, June 14, 2011 10:28 AM
To: [REDACTED] Farhat, Jody S NWD02
Cc: [REDACTED] K; [REDACTED] NWK
Subject: Lower Kansas River Lake Releases (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

14 June 2011

Since the Kansas River lakes' flood pool evacuation releases are something we are monitoring closely and coordinating with the MRBWM, we felt it appropriate to track the status in a daily email.

No changes in Kansas River lake releases from yesterday (see below).

[REDACTED]
Chief, Water Management Section
USACE - Kansas City District
[REDACTED]

-----Original Message-----

From: [REDACTED]
Sent: Monday, June 13, 2011 2:05 PM
To: Hofmann, Anthony J COL NWK; [REDACTED] Farhat, Jody S NWD02
Cc: [REDACTED]
Subject: RE: Deviation Modification for Lower Kansas Projects and Truman (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

We have resumed flood pool evacuation releases from the Kansas River Lakes based on the delayed arrival of the peak Gavins Point releases, as discussed below and in a conversation this morning with Kevin Grode. Milford is now releasing 9,000 cfs and projected to reach multipurpose pool in 14 days. We are limiting releases to 9,000 cfs to reduce the risk of outlet channel damage. Tuttle Creek is now releasing 8,000 cfs and projected to reach multipurpose pool in 10 days. Perry is releasing 5,000 cfs and projected to reach multipurpose pool in 7 days. Clinton is near multipurpose at this time and will remain at a low flow release of 21 cfs.

We will continue these operations in close coordination with the MRBWM - Reservoir Control Center. We are also closely monitoring the upstream gages to track the progression of the Gavins Point release peak flows.

[REDACTED]
Chief, Water Management Section
USACE - Kansas City District
[REDACTED]

-----Original Message-----

From: Goodnight, Rexford G NWK
Sent: Monday, June 13, 2011 9:14 AM

To: Farhat, Jody S NWD02; Hofmann, Anthony J COL NWK; [REDACTED]
[REDACTED]
Tipton, Robert A Col NWD; Austin-Smith, Christina A NWD
Cc: [REDACTED]
Subject: RE: Deviation Modification for Lower Kansas Projects and Truman (UNCLASSIFIED)

Jody, based on our conversation this morning we now understand that increased MR flow travel times to Rulo and south will be delayed due to overtopping of embankments north of Omaha. I will have Eric S. and Ed coordinate with [REDACTED] the expected travel times to determine how much additional time we have to draw down Milford - we will resume releases today. Please let us know of any changes to MR travel times so we have time to adjust on the Kansas.

Appreciate all the good work you are doing!

Thanks, r

-----Original Message-----

From: Farhat, Jody S NWD02
Sent: Sunday, June 12, 2011 5:51 PM
To: Hofmann, Anthony J COL NWK; [REDACTED]
[REDACTED] Anderson, G Witt NWD; Blechinger, Erik T NWO; Tipton, Robert A Col NWD; [REDACTED] NWD
Cc: Farhat, Jody S NWD02; [REDACTED]
Subject: FW: Deviation Modification for Lower Kansas Projects and Truman (UNCLASSIFIED)

Classification: UNCLASSIFIED

Caveats: NONE

COL Hofmann,

Sir, in response to an issue raised on the NWK MCT call this afternoon, I offer the following information:

My office has been coordinating with the NWK Water Management office regarding evacuation of the tributary reservoirs prior to peak stages reaching the Kansas City area. On May 29th we received the attached deviation request, which was approved via email almost immediately and followed by a formal letter on May 31. When we learned last weekend that the district was cutting back releases from Milford and other tributary reservoirs in response to the increasing flows on the Missouri River, [REDACTED] we sent the email below to [REDACTED] suggesting that the District continue to evacuate storage until the stages at Kansas City and/or Waverly reach the lower end of the published stage range with 150,000 cfs release from Gavins. Apparently this was discussed within NWK and the decision was made to reduce outflows to minimum release requirements.

It is still my position that the tributary reservoirs should be evacuated prior to peak stages being reached in the reach below Kansas City. Personally, I believe that the 29 May deviation request was sufficient to allow continued evacuation, but if the district would like to request a more specific deviation request, I would certainly approve it immediately.

The daily bulletin indicates 200,000 acre-feet of water remains to be evacuated from Milford. Based on discussions with Hydrologic Engineering in the Omaha District, they expect it will take a week or more for all the overbank storage between Gavins Point and Omaha to fill. Extend that philosophy to the reach from Omaha to Kansas City, and it appears there are several weeks remaining before peak stages from the 150,000 cfs release reach Kansas City.

I strongly encourage Kansas City District to resume evacuation of all tributary storage unless local conditions dictate another strategy.

VR,
Jody

-----Original Message-----

From: [REDACTED]
Sent: Sunday, June 12, 2011 4:12 PM
To: Farhat, Jody S NWD02
Subject: FW: Deviation Modification for Lower Kansas Projects and Truman (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Jody,

The attached is the deviation we approved. Below is what I sent to Eric last Sunday. When I spoke with him last Monday he had indicated that he had spoken with Rex Goodnight and that they had decided to stick with their original plan.

[REDACTED]
[REDACTED]
Reservoir Regulation Team Lead
Missouri River Basin Water Management,
Northwestern Division, USACE
[REDACTED]
[REDACTED]

-----Original Message-----

From: [REDACTED]
Sent: Sunday, June 05, 2011 6:00 PM
To: [REDACTED]
Subject: Deviation Modification for Lower Kansas Projects and Truman (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

[REDACTED]
Just throwing some words out here for you to consider.

Reference attached deviation request from May 29, 2011 - Deviation Request from Missouri River Control Points).

The extreme and historical releases being made from Gavins Point are directly related to the reservoir conditions at the upper mainstem projects. All three upper projects are currently well into their exclusive flood control pools and are expected to remain in those zones, at least until August, and perhaps later. Currently, Fort Peck is in its surcharge zone and Garrison is within inches of being in its surcharge zone.

Given the extreme flooding conditions in the mainstem system, it is necessary that tributary reservoir regulation also be considered in order to maintain proper risk management. Attached is a planning tool, which outlines a likely range of flows of stages with a Gavins Point release of 150 kcfs, that was collaboratively developed by MRBWM, NWO, NWK and the MBRFC (National Weather Service). This planning tool is being used to assist with risk reduction measures along the Missouri River from Gavins Point to the mouth.

<http://www.nwo.usace.army.mil/html/op-e/maps/WaterMgt/Below%20Gavins%20-%20Range%20of%20Flows%20and%20Stages%20-%20Final.pdf>

Kansas City - 220 kcfs to 350 kcfs (30 ft to 39 ft) Waverly - 230 kcfs to 370 kcfs (27 ft to 31 ft) Boonville - 260 kcfs to 420 kcfs (27 ft to 33 ft) Hermann - 300 kcfs to 470 kcfs (27 ft to 33 ft)

Then reference the Corps' FUI stage forecast for the next 2 weeks:
<http://www.nwd-mr.usace.army.mil/rcc/reports/internal/showrep.cgi?3STAG1>

Since the NWS forecast only goes out 5 days, it isn't going to assist with this due to travel time from the projects to each of the Missouri River stations. We could use our FUI forecast or the NWS does produce a monthly forecast every Wednesday. Might be able to get them to produce it Monday and Friday also.

For the next 2 weeks the Missouri River stations, per this morning's FUI:
... Kansas City (MKCF) stage forecast does not exceed 28 feet.
... Waverly (WVMF) stage forecast does not exceed 26 feet.
... Boonville (BNMF) stage forecast does not exceed 24 feet.
... Hermann (HEMF) stage forecast does not exceed 23.5 feet.

Since all stations are below their respective lower end of the likely range, then releases from flood control storage zones can be made in such a manner that the total flood control release does not exceed the lower stage level. In this case, it would be Waverly (26 feet to 27 feet) that would be the adjusted control point. Per the latest rating curve, there's about an 18 kcfs difference between 26 and 27 feet at Waverly. Or we could use flows. Doesn't matter - 6 of one, half dozen of the other. However, it seems that the stage is driving factor, not the flow.

How flood control storage releases are made should be based on each project's current level of flood control storage as well as downstream constraints, such as Milford and Tuttle Creek. However, 3 weeks from now, it may be a different project. We'll have to work out how we're going to monitor/adjust through the period ... revisit every few days or after a major precipitation event ... it'll be tricky due to the travel time.

Talk to you at 8:30.

[REDACTED]
[REDACTED]
Reservoir Regulation Team Lead
Missouri River Basin Water Management,
Northwestern Division, USACE
[REDACTED]
[REDACTED]

Classification: UNCLASSIFIED
Caveats: NONE

Classification: UNCLASSIFIED
Caveats: NONE

[REDACTED] NWO

From: [REDACTED]
Sent: Tuesday, June 14, 2011 10:28 AM
To: Farhat, Jody S NWD02
Subject: End of Release Question

Hi Jody,

I'm a hydrologist with Kansas City District currently serving as a liaison with FEMA region VII. The question has been posed of when this big release on Gavins are nearing the end (mid August or whenever), what will be the plan to wind down releases? Will it be a gradual transition to lesser release amounts, like we've been doing as we ramp up, or will it just be sharply reducing amounts over a shorter period of time until the minimum is achieved?

Thank you for your help,

[REDACTED]
[REDACTED]
U.S. Army Corps of Engineers

Kansas City District
[REDACTED]
[REDACTED]
[REDACTED]

NWO

From: [REDACTED]
Sent: Tuesday, June 14, 2011 10:27 AM
To: [REDACTED] Farhat, Jody S NWD02
Subject: FW: Col. Ruch: Upper Missouri dams safe, functioning, operating as designed (UNCLASSIFIED)

Classification: UNCLASSIFIED

Caveats: NONE

FYI

-----Original Message-----

From: William Lay [mailto:wlay@socket.net]
Sent: Monday, June 13, 2011 7:51 PM
To: [REDACTED]
Cc: Tom & Karla Waters; Bill Jackson; Danny & Trisha Kuenzel; William Lay; Sam Johnson
Subject: Re: Col. Ruch: Upper Missouri dams safe, functioning, operating as designed

Dear [REDACTED],

I can't find Col. Ruch's e-mail address, but since you write some of his articles and probably are in touch with him periodically I thought I would make some suggestions to you which you can pass along to him.

Your article the Colonel states that the dams are fully functional and operating as designed. I am sure Jody is following the regulations, but it appears to me that she hasn't been given adequate tools.

Perhaps we need a few changes in the design of the reservoirs.

We have had a 44 million acre foot year which is about the highest flow we have ever had.

We only have 11 million acre feet of flood control storage in the system.

We are not going to be able to give good flood control protection until we increase the flood control storage.

If we expect to give any flood protection we are going to have to get more tools to handle the water.

We can't expect him to handle this kind of a problem with a tea cup.

Maybe this year will motivate folks to give the corps a few more tools and a little more flood control storage.

The Corps has done a fine job this year with the tools it has been given but it clearly needs more.

I am sure all of these thoughts have occurred to him.

Bill Lay

On Jun 11, 2011, at 1:23 PM, U.S> Army Corps of Engineers wrote:

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U.S. ARMY CORPS OF ENGINEERS

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NEWS RELEASE

For Immediate Release: June 11, 2011

Contact: Joint Information Center 402-996-3877

mrjic@usace.army.mil

Col. Ruch: Upper Missouri dams safe, functioning, operating as designed

By Col. Robert J. Ruch

Commander, Omaha District

U.S. Army Corps of Engineers

The U.S. Army Corps of Engineers is engaged in an epic flood fight. For the last few months, we have focused on managing heavy inflows caused by record snowpack and rainfall in the Upper Missouri River basin. On May 1, the Corps projected summer releases of 57,500 cubic feet per second from Gavins Point Dam and were on schedule to evacuate the runoff from the record snowpack.

Then storms dumped eight inches of rain over Montana and North Dakota and changed the entire scenario. We will be managing these and subsequent inflows for the next several months as record runoff surges through the main stem system.

As Commander of the Omaha District U.S. Army Corps of Engineers, I assure you that we make public safety our number one priority. We are also intensely focused on providing the public with timely, accurate and useable information.

In today's information age, we are confronted with reported assertions that are inaccurate and may induce fear and uncertainty without merit. Such assertions published and circulated in the past few weeks would have the public believe that the main stem dam system on the Upper Missouri could fail.

I disagree with those assertions.

I won't lend unproven assertions any credence by repeating them or analyzing them point by point. I do, however, want the public to know this:

The dams on the Upper Missouri - Fort Peck, (Mont.), Garrison Dam (N.D.), Oahe Dam, Big Bend Dam, and Fort Randall Dam (all S.D.) and Gavins Point (S.D./Neb.) -- are fully functional and operating as designed.

The system is protecting the public from unregulated flows. Unregulated flows - which

occur when flood waters flow uncontrolled in a spillway -- would result in significantly more damage. There is no evidence to suggest an emergency situation at any of our dams, and all projects are operating within their design parameters.

Public safety is paramount. As part of this responsibility, we long ago implemented a comprehensive dam safety program at each of our dams. We conduct daily, yearly and periodic (every 5 years) inspections, teaming with state dam safety agencies, Northwestern Division and other agencies to ensure the safety of these structures.

Our extensive instrumentation program allows us to closely monitor areas of interest such as seepage pressure and any minor movement. We've also re-evaluated seismic designs as the state of practice has evolved over recent decades. People need to remember that although our flood control storage is near capacity, dam functionality is not. There is no danger that any of our dams will be overtopped.

It is worth noting that all six dams have experienced similar pool levels several times over their service life. We make it standard operating procedure to increase the level of surveillance as water levels rise so that we can best manage the risks associated with dams of this size and importance. Our elevated surveillance on these dams has not revealed any significant issues or concerns regarding operation at these high pools and or record releases.

In closing, I have full confidence in the operational integrity of our main stem dams. Our dams are inspected and maintained on rigid schedules. Holding back volumes of water is what they were designed to do, and these structures have not only met but surpassed these expectations. We are respectful of these structures and pledge to remain vigilant to continually evaluate the performance and reliability of these projects into the future.

The Corps is 100 percent committed to this flood fight and we will continue to manage this record event on the river with public safety as our top priority. We will continue to use best engineering practices to manage the flood waters in the Missouri River main stem dam and reservoir system as the fight moves into summer.

Please call us if you have questions - our Joint Information Center number is 402-996-3877. You can also go to our website at <http://www.nwo.usace.army.mil/<http://USACEARMY.pr-optout.com/Url.aspx?520028x1307441x1765121>>

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U.S. ARMY CORPS OF ENGINEERS

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NEWS RELEASE

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U.S. Army Corps of Engineers, 1616 Capitol Ave., Omaha, NE 68102 United States

Classification: UNCLASSIFIED
Caveats: NONE

[REDACTED] NWO

From: [REDACTED]
Sent: Tuesday, June 14, 2011 9:53 AM
To: [REDACTED]
Cc: Farhat, Jody S NWD02
Subject: WM Update - 6-14-11 (UNCLASSIFIED)
Attachments: NWD Missouri Basin Update - 061411.pptx

Classification: UNCLASSIFIED
Caveats: NONE

[REDACTED]
Today's Update is attached.

[REDACTED]
Missouri River Basin Water Management Division Northwestern Division Corps of Engineers
[REDACTED]
[REDACTED]

Classification: UNCLASSIFIED
Caveats: NONE

Missouri River Basin Stages

14 June 2011



US Army Corps of Engineers
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	Station	Flood Stage	Current Stage	Likely Range of Highest* Flows/Stages	Projected Date **	Record Stage (Year)
A	Bismarck	16	18.1	150 kcfs 20.6	June 19	
B	Pierre	13	18.8	150 kcfs 18.7	June 7	
C	Yankton	20	24.6	150 kcfs n/a	June 14	
D	Sioux City	30	33.3	170 kcfs 35	June 15	44.28 (1952)
E	Decatur	35	37.5	175 kcfs 40	June 15	43.5 (1943)
F	Blair	26	31.5	175 kcfs 32	June 15	33.5 (1952)
G	Omaha	29	32.7	175 kcfs 34	June 16	40.2 (1952)
H	Nebraska City	18	24.9	200 kcfs 27	June 16	27.19 (1993)
I	Brownville	33	39.7	205 kcfs 43	June 16	44.3 (1993)
J	Rulo	17	24.2	210 kcfs 25.5	June 17	26.63 (2010)
K	St. Joseph	17	23.2	215 kcfs 27	June 17	32.07 (1993)
L	Atchison	22	26.2	215 kcfs 30	June 17	31.63 (1993)
M	Leavenworth	20	22.0	215 kcfs 27	June 17	35.34 (1993)

Missouri River Basin Stages

14 June 2011



US Army Corps of Engineers
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	Station	Flood Stage	Current Stage	Likely Range of Highest* Flows/Stages		Projected Date **	Record Stage (Year)
N	Kansas City	32	24.9	220 kcfs 30	350 kcfs 39	June 18	48.87 (1993)
O	Sibley	22	23.7	220 kcfs 28	350 kcfs 33	June 18	40.6 (1952)
P	Napoleon	17	20.7	220 kcfs 25	350 kcfs 29	June 18	28.86 (2007)
Q	Waverly	20	23.7	230 kcfs 27	370 kcfs 31	June 18	31.15 (1993)
R	Miami	18	21.8	235 kcfs 26	370 kcfs 30	June 19	32.6 (1993)
S	Glasgow	25	n/a	250 kcfs 32	410 kcfs 37	June 19	39.5 (1993)
T	Boonville	21	21.6	260 kcfs 27	420 kcfs 33	June 19	37.1 (1993)
U	Jefferson City	23	20.8	260 kcfs 27	430 kcfs 35	June 19	38.3 (1993)
V	Chamois	17	17.9	290 kcfs 24	450 kcfs 29	June 19	33.3 (1993)
W	Gasconade	22	24.2	300 kcfs 30	470 kcfs 35	June 19	39.6 (1993)
X	Hermann	21	21.9	300 kcfs 27	470 kcfs 33	June 20	36.97 (1993)
Y	Washington	20	18.5	300 kcfs 23	470 kcfs 32	June 20	35.4 (1993)
Z	St. Charles	25	24.9	300 kcfs 28	470 kcfs 37	June 20	40.04 (1993)

[REDACTED] NWO

From: [REDACTED]
Sent: Tuesday, June 14, 2011 9:32 AM
To: [REDACTED]
Farhat, Jody S NWD02: [REDACTED]
[REDACTED]
Subject: Today's Flood fight notes (UNCLASSIFIED)
Attachments: 6-14 Garrison Flood Fight Daily Staff Notes.docx; Main Stem Regulation Forecast - Three-Week (6-13.mht

Classification: UNCLASSIFIED
Caveats: FOUO

More damn rain! Notes attached...

[REDACTED]
Operations Project Manager
Garrison Project

Classification: UNCLASSIFIED
Caveats: FOUO

**Garrison Flood Fight
Daily Staff Notes
Monday, June 14, 2011**

Forecast/Flows/River Monitoring:

- Lake Sakakawea:
 - Current Reservoir Elevation: 1853.45. Yesterday's elevation: 1853.41
 - Current Tail water Elevation 1684.15. Yesterday's elevation 1683.51
 - Stilling Basin (a.k.a. Spillway Pond) elevation: 1687.8
 - Estimated Inflows 142,000 cfs, Releases: 140,000 cfs
 - Release Schedule: Remain at 140,000 cfs today. Increase to 145,000 cfs on Friday. Goal remains at 150,000 cfs by June 17th.
 - Spillway gates #'s 1-7 and 21-28 are open one foot. Gate #'s 8-20 are open approximately 2 feet.
 - Current release distribution: Power Plant - 30,000 cfs, Regulating Tunnels - 65,500 cfs, Spillway - 44,500 cfs.
- Fort Peck releases 65,000 cfs scheduled to remain at that level until June 19th before going back down to 60,000 cfs.
- Missouri River Elevations:
 - Bismarck gage: Currently 18.15 feet, Protection measures in Bismarck were to 21.6 feet with a forecasted crest of 20.6 feet.
 - Williston gage: Currently 29.51 feet, forecasted to go to 29.8 feet by Tuesday. Previous record stage: 28.0 feet.
- Current Snowpack: Snow pack data not updated for today...
 - Ft Peck - crested at 136% of normal peak; currently 80% of the normal peak remains.
 - Garrison - crested at 141% of peak; currently 92% of the normal peak remains.

Garrison Dam Surveillance:

- Surveillance (Team Leader, [REDACTED]; cell: ([REDACTED]))
 - No additional signs of distress noted. Pavement markings in the area of suspected movement appear to be stationary. From a cursory level review of the instrumentation all tilt plates (excluding 99) were within their expected range. Inclometers 8T, 9T, and 10T do indicate additional displacement; however the incremental displacement appears to be within the historic annual rate, not accelerated.
- Instrumentation (Team Leader [REDACTED]; cell: [REDACTED])
 - Flow readings in man-holes may not be accurate due to the large amount of precipitation and filtration into these areas. Additional readings will be pursued once we get a break from the rain.

Snake Creek Embankment/ Lake Audubon:

- Surveillance:
 - No new issues...

- Lake Audubon has been filled to elevation 1849.5 to utilize additional storage. Currently we do not plan to increase that elevation.

Williston Levee:

- POC's [REDACTED] cell: (701) 220-2812
- Inspection teams found an additional 15 pin boils today. Inspection crew requested additional sandbags today for ring diking around boils.
- Bob Worden is requesting additional rock to place a block in the relief channel to the west. Pattie and I will get things rolling for that tomorrow. I spent most of the day dealing with contract issues in support of the flood fight mission.
- Rumor mill was rampant today regarding evacuations of Williston.
- Governor, TAG, and [REDACTED] (USACE Liaison) are flying to Williston for a 1230 meeting to discuss the Mayor's request for all forms of available assistance. Shannon Jeffers and Jeff Keller will represent the Garrison Project.
- Contractor hired to improve the toe road is not performing. Field staff currently working the issues.

Natural Resources:

- POC's [REDACTED] cell: (701) 220-3411, [REDACTED]
- [REDACTED] working with [REDACTED] to get law enforcement contracts in place. Also working to get a contractor for traffic control and parking on weekends.
- Mike Key and another individual scheduled to arrive at Garrison this Friday to assist and provide our personnel some reprieve. The assistance is much appreciated!

Outside Maintenance:

- Regrading and adding material to the West Spillway overlook. Two fold, to provide a nice base for public viewing and to address drainage issues contributing to sloughing below this area.
- Scheduled to add rock to the lower end of the tailrace riprap on both East and West banks, as the current and fluctuating tailrace elevations are back cutting the riprap. Current conditions will not allow access on the East bank as it is too muddy. Work will be pursued as soon as conditions permit.
- Temporary water line: If a leak is noted, notify your supervisor, Chuck Phelps, or I ASAP. Also notify City of Riverdale, "Clay" at (701) 471-6433 or Charles Sorensen ext. 232, or home ([REDACTED]). Shutoff valves located on the line. A drawing showing the locations of these valves is posted in the Outside Maintenance shop. A valve key to close the valves is located immediately inside the front door of the maintenance building.

Power Plant:

- Going back to four units generating today and backing off again this evening to meet WAPA needs. Changes being made at 8:00 am and 8:00 pm. Changes will be made between the power plant and regulating tunnels. A 15,000 cfs swing each time.

- Coordinating automation of the regulating tunnel gates with Omaha to ensure compliance with EC 1110-2-6071, which restricts remote operations for water control features that pose life safety risk. Concerned that this automation will further exacerbate the desire to operate these gates frequently as part of power control for WAPA. Need Engineering opinion regarding whether these gates are really designed for such use?
- Will work on the camera issues at the spillway again today...

Weather/Safety:

Today for Riverdale: Showers and a few thunderstorms likely. High 67F. Winds SW at 5 to 10 mph. Chance of rain 60%.	Tonight for Riverdale: Scattered thunderstorms this evening followed by a few showers overnight. Low 53F. Winds W at 5 to 10 mph. Chance of rain 50%.	Tomorrow: Intervals of clouds and sunshine. High 73F. Winds WNW at 10 to 20 mph. Chance of rain 20%.
---	---	--

- Mike Morris and Charles Sorensen have volunteered to work on evacuation plans. I will coordinate with them to develop these plans this week.

Needed Resources:

- Pursuing printing of overview maps to be utilized for dam safety surveillance.
- NR's to place an order for new life jackets.
- Fuel was delivered yesterday!
- Looking into upgrading our radios so that we can utilize them effectively for local communication. Cell phone coverage is spotty in several locations.

Any resource needs, safety issues, or emergencies should be directed to your team leaders/POC immediately. If they cannot be reached contact [REDACTED] - [REDACTED] Home: [REDACTED]).

OPM Notes:

- Currently working schedules for next week, need input from all supervisors and Omaha, regarding availability for dam surveillance.
- Garrison National Hatchery will be allowed to conduct scheduled tours of the hatchery. These will be coordinated with the Sheriff's department via Natural Resources section. No walk in tours allowed as we would not be able to control the public. Safety vests have been ordered and will be provided to hatchery personnel living downstream. I've requested that they wear them while walking, biking etc. downstream.
- Surveyors will be out surveying the crest road for the Highway 200 replacement project, currently scheduled for next year. We will be meeting with the design engineers on June 20th to discuss proposed changes to the approaches at each end of the crest road. Dam safety engineers will participate in the meeting.

This regulation forecast was made using computed reservoir inflows based on 5-days of forecast precipitation and mountain snowmelt runoff. The regulation forecast is subject to change daily as actual events occur.

* Indicates release changes from previous forecast

		REGULATION FORECAST 06/13/11															
		FTPK				GARR				OAHE				BEND			
		24EL	24ID	24OD	24GE	24EL	24ID	24OD	24GE	24EL	24ID	24OD	24GE	24EL	24ID	24OD	24GE
13	M	2252.1	85.0	65.0	5.13	1853.2	164.4	140.0	9.23	1618.5	152.2	150.0	13.89	1419.7	150.0	150.0	8.63
14	T	2252.3	83.0	65.0	5.14	1853.4	173.4	140.0	9.24	1618.6	152.8	150.0	13.89	1419.7	150.0	150.0	8.60
15	W	2252.3	74.0	65.0	5.14	1853.5	170.8	140.0	9.25	1618.6	153.8	150.0	13.89	1419.7	150.0	150.0	8.58
16	T	2252.3	68.0	65.0	5.14	1853.6	164.2	145.0	9.25	1618.6	158.0	150.0	13.89	1419.7	150.0	150.0	8.57
17	F	2252.3	63.0	65.0	5.14	1853.7	162.9	150.0	9.26	1618.7	162.6	150.0	13.90	1419.7	150.0	150.0	8.56
18		2252.3	59.0	65.0	5.14	1853.8	164.0	150.0	9.26	1618.8	170.4	150.0	13.90	1419.7	150.0	150.0	8.54
19		2252.2	56.0	65.0	5.13	1853.8	164.0	150.0	9.27	1618.9	176.8	150.0	13.92	1419.7	150.0	150.0	8.53
20	M	2252.1	53.0	60.0	5.13	1853.9	165.0	150.0	9.27	1619.0	172.0	150.0	13.92	1419.7	150.0	150.0	8.51
21	T	2252.1	52.0	60.0	5.13	1854.0	162.8	150.0	9.27	1619.2	175.0	150.0	13.93	1419.7	150.0	150.0	8.50
22	W	2252.0	50.0	60.0	5.13	1854.0	161.6	150.0	9.28	1619.3	173.0	150.0	13.94	1419.7	150.0	150.0	8.48
23	T	2251.9	49.0	60.0	5.13	1854.1	157.8	150.0	9.28	1619.4	169.0	150.0	13.95	1419.7	150.0	150.0	8.47
24	F	2251.8	50.0	60.0	5.13	1854.1	152.6	150.0	9.28	1619.5	166.0	150.0	13.95	1419.7	150.0	150.0	8.46
25		2251.8	55.0	60.0	5.13	1854.1	144.0	150.0	9.28	1619.5	162.0	150.0	13.96	1419.7	150.0	150.0	8.44
26		2251.8	59.0	60.0	5.12	1854.1	157.0	150.0	9.28	1619.6	158.0	150.0	13.96	1419.7	150.0	150.0	8.43
27	M	2251.8	64.0	60.0	5.13	1854.1	162.0	150.0	9.28	1619.6	157.0	150.0	13.96	1419.7	150.0	150.0	8.42
28	T	2251.9	69.0	60.0	5.13	1854.2	167.0	150.0	9.29	1619.6	156.0	150.0	13.97	1419.7	150.0	150.0	8.40
29	W	2252.0	74.0	60.0	5.13	1854.3	171.0	150.0	9.29	1619.7	155.0	150.0	13.97	1419.7	150.0	150.0	8.39
30	T	2252.1	74.0	60.0	5.13	1854.5	177.0	150.0	9.30	1619.7	154.0	150.0	13.97	1419.7	150.0	150.0	8.38
1	F	2252.2	74.0	60.0	5.13	1854.6	175.0	150.0	9.30	1619.7	153.0	150.0	13.97	1419.7	150.0	150.0	8.37
2		2252.3	73.0	60.0	5.14	1854.7	173.0	150.0	9.31	1619.7	152.0	150.0	13.97	1419.7	150.0	150.0	8.36
3		2252.3	67.0	60.0	5.14	1854.8	172.0	150.0	9.32	1619.7	151.5	150.0	13.97	1419.7	150.0	150.0	8.35
4	M	2252.3	64.0	60.0	5.14	1854.9	171.0	150.0	9.32	1619.7	151.5	150.0	13.97	1419.7	150.0	150.0	8.34
5	T	2252.3	59.0	60.0	5.14	1855.0	170.0	150.0	9.32	1619.7	151.5	150.0	13.97	1419.7	150.0	150.0	8.34
6	W	2252.3	54.0	60.0	5.14	1855.1	169.0	150.0	9.33	1619.7	151.5	150.0	13.97	1419.7	150.0	150.0	8.33
7	T	2252.2	50.0	60.0	5.13	1855.2	166.0	150.0	9.33	1619.7	151.5	150.0	13.97	1419.7	150.0	150.0	8.32
8	F	2252.1	49.0	60.0	5.13	1855.2	164.0	150.0	9.34	1619.7	151.5	150.0	13.97	1419.7	150.0	150.0	8.31
9		2252.0	49.0	60.0	5.13	1855.3	162.0	150.0	9.34	1619.7	151.5	150.0	13.97	1419.7	150.0	150.0	8.31
10		2251.9	48.0	60.0	5.13	1855.3	160.0	150.0	9.34	1619.7	151.5	150.0	13.97	1419.7	150.0	150.0	8.30
11	M	2251.8	47.0	60.0	5.12	1855.4	158.0	150.0	9.34	1619.7	151.5	150.0	13.97	1419.7	150.0	150.0	8.29
12	T	2251.6	46.0	60.0	5.12	1855.4	156.0	150.0	9.34	1619.7	151.5	150.0	13.97	1419.7	150.0	150.0	8.28
13	W	2251.5	45.0	60.0	5.12	1855.4	154.0	150.0	9.34	1619.7	151.5	150.0	13.97	1419.7	150.0	150.0	8.28
14	T	2251.4	44.0	60.0	5.12	1855.4	152.0	150.0	9.35	1619.7	151.5	150.0	13.97	1419.7	150.0	150.0	8.27
15	F	2251.2	38.0	60.0	5.11	1855.4	150.0	150.0	9.34	1619.7	151.5	150.0	13.97	1419.7	150.0	150.0	8.26

Project:

24EL Midnight Elevation (feet above mean sea level)
 24ID Daily Average Inflow (kcfs)
 24OD Daily Average Release (kcfs)
 24GE Daily Power Generation (MWh)

System:

GE Daily Power Generation (MWh)
 SG Midnight Storage (AF)
 DSG Daily Storage Change (AF)

Units:

kcfs thousand cubic feet per second
 MWh megawatt hour
 AF acre-feet

Pagemaster: Water Management; CENWD-PDR;

Internet E-Mail Address: Missouri.Water.Management@nwd02.usace.army.mil

[REDACTED] NWO

From: [REDACTED]
Sent: Tuesday, June 14, 2011 8:57 AM
To: Anderson, G Witt NWD; McMahon, John R BG NWD; [REDACTED]
Cc: Ruch, Robert J COL NWO; Hofmann, Anthony J COL NWK; Blechinger, Erik T NWO; Farhat, Jody S NWD02; [REDACTED]
Subject: RE: Arriving Wed (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Welcome back Sir,

Your team back in Portland continues to move the move the ball forward on day to day actions and support the fight where needed. Your EOC staff is gaining valuable experience and developing efficient and effective operating principals. Great teamwork.

Looking forward to seeing you sometime in the future.

V/R

[REDACTED]
[REDACTED]
Director Regional Business
Northwestern Division, USACE
Phone: (503) 808-3820
BB: (503) 703-5965

-----Original Message-----

From: Anderson, G Witt NWD
Sent: Tuesday, June 14, 2011 6:31 AM
To: McMahon, John R BG NWD; [REDACTED]
Cc: Ruch, Robert J COL NWO; Hofmann, Anthony J COL NWK; Blechinger, Erik T NWO; Farhat, Jody S NWD02; [REDACTED]
Subject: RE: Arriving Wed (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Roger Sir. Will give you a chance to do the DVIDs session Friday if you want to do that and the Codel visit Monday in NWK AO.

To make sure you are tracking latest schedule for 21 June - we have levee vegetation session with Jim Waldo, G2 and HQ folks at 0730, session with Ms Darcy at 0930 (CR Treaty), 1200-1300 White House and 1315-1430 DC Departments/agencies on CR Treaty.

Districts, Jody's shop, and MRJIC are doing superb work on Operation Might Mo!

VR
Witt

-----Original Message-----

From: McMahon, John R BG NWD
Sent: Tuesday, June 14, 2011 6:22 AM

To: Anderson, G Witt NWD; [REDACTED]
Cc: Ruch, Robert J COL NWO; Hofmann, Anthony J COL NWK
Subject: Arriving Wed

At 1205 PM into Omaha--will spend the rest of the day at NWD-Omaha. Don't know the details of Congressional Visit on Monday--but want to get into DC later that day, 20 June. Will need hotel in Omaha thru Mon? Then in DC thru? Thanks.
Vr/John McMahon

Classification: UNCLASSIFIED
Caveats: NONE

Classification: UNCLASSIFIED
Caveats: NONE

NWO

From: [REDACTED]
Sent: Tuesday, June 14, 2011 8:51 AM
To: Farhat, Jody S NWD02
Cc: [REDACTED] NWD
Subject: Background for Today's 10 a.m. Interview (UNCLASSIFIED)
Attachments: David Montgomery, Rapid City Journal- Bio.pdf

Classification: UNCLASSIFIED
Caveats: NONE

Jody, attached is some information on the reporter and the outlet.

Christina, would you like to join us in Jody's office for this interview?

Recorded phone interview (20 minutes) with David Montgomery of the Rapid City Journal newspaper
605-394-8329

Topic: Missouri River management- balance and uses

[REDACTED]
Public Affairs Specialist
U.S. Army Corps of Engineers
Missouri River Joint Information Center

[REDACTED]
MRJIC@usace.army.mil
www.facebook.com/OperationMightyMo
www.facebook.com/OmahaUSACE
www.flickr.com/photos/OmahaUSACE
Flood inundation maps and local emergency management contact information:
www.nwo.usace.army.mil

Classification: UNCLASSIFIED
Caveats: NONE



**US Army Corps
of Engineers®**

David Montgomery, Rapid City Journal Newspaper

Sarah Gross

David Montgomery, Rapid City Journal Newspaper

Rapid City Journal

Address 507 Main Street, Rapid City, SD 57701-2733 - UNITED STATES
Phone (605) 394-8300
Fax (605) 394-8463
Web Site <http://www.rapidcityjournal.com/>
Media Type Newspaper
DMA 173-Rapid City, SD
Circ. Total 25185

Media Outlet Profile

EDITORIAL PROFILE/BACKGROUND

The Rapid City Journal covers the local and state news that is relevant to the residents of Pennington County, South Dakota, as well as national and world news. The Local news section features news coverage on the economy, government, education, and crime news. The Sports section covers professional sports, with an emphasis on local colleges and high schools. The Business section concentrates on the news that impacts local and national industries and provides stock market news. The Entertainment section provides coverage on local and national entertainment news, as well as upcoming calendar events. The following sections and pages can be found on specific days of the week:

- Monday: Health & Fitness
- Tuesday: Outdoor Update
- Wednesday: Food
- Thursday: Home & Garden, Outdoor Update
- Friday: Black Hills Weekend
- Saturday: Forum, Outdoors, Religion, TV Journal

--Sunday: Farm & Ranch Update, Living The Rapid City Journal is owned by Lee Enterprises. Lee Enterprises, which acquired Pulitzer Newspapers Inc., in June of 2005, is the fourth largest U.S. newspaper publisher in terms of daily newspapers with 58 dailies in 23 states. Lee is the seventh largest publisher as far as circulation with a total of 1.7 million daily and 2.0 million Sunday. Lee also has more than 300 weekly newspapers, shoppers and specialty publications. Lee Enterprises is a publicly traded company on the NYSE.

PUBLICATION/PROGRAMMING INFORMATION

This is a daily newspaper.

TARGET AUDIENCE

The target audience of the Rapid City Journal is the residents of Pennington County.

PITCHING INSTRUCTIONS

News tips, story ideas and press releases can be faxed to (605) 394-8463.

ONLINE CONTENT

The paper has a comprehensive website.

ADVERTISING INFORMATION

The paper accepts advertising. The open ad rate is \$87.20 per column inch for a weekday, black and white advertisement.

OUTLET STATISTICS

Circulation/Audience: 25,185

David Montgomery, Rapid City Journal Newspaper

Weekend Circulation/Audience: 30,139

Contacts

David Montgomery - Political Reporter

507 Main Street, Rapid City, SD 57701-2733 - UNITED STATES

(605) 394-8329 (Voice)

(605) 394-8463 (Fax)

david.montgomery@rapidcityjournal.com

Media Contact Pitch

David Montgomery covers South Dakota state politics and federal politics as they pertain to the state of South Dakota for the Rapid City Journal. He also contributes to the paper's political blog, Mount Blogmore.

Mr. Montgomery previously worked as a government and general assignment reporter for the Capital Journal, and an intern for both the Daily Southtown and the Seattle Times. He graduated from Grinnell College in 2008 with a bachelor's degree in political science.

David Montgomery blogs at http://www.rapidcityjournal.com/app/blogs/political
blog/

NWO

From: [REDACTED]
Sent: Tuesday, June 14, 2011 8:36 AM
To: [REDACTED]
Cc: [REDACTED], Bergman, Rome R NWO, Farhat, Jody S
Subject: NWD02
Mainstem data for NWO sitrep 6/14/11 (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Notes for data below: pool elevation is the midnight value; average inflows and average releases are average daily values; scheduled releases are the release from the project at the end of the day per yesterday's project orders.

Fort Peck Dam (MT)

6/13 Pool Elev: 2252.1 ft-msl

24-hr change: 0.2'

6/13 Ave Inflow: 86,000 cfs

6/13 Ave Release: 65,400 cfs

6/14 Scheduled Release: 65,000 cfs

Garrison Dam (ND)

6/13 Pool Elev: 1853.4 ft-msl

24-hr change: 0.0'

6/13 Ave Inflow: 190,000 cfs

6/13 Ave Release: 138,700 cfs

6/14 Scheduled Release: 140,000 cfs

Oahe Dam (SD)

6/13 Pool Elev: 1618.6 ft-msl

24-hr change: 0.3'

6/13 Ave Inflow: 145,000 cfs

6/13 Ave Release: 150,400 cfs

6/14 Scheduled Release: 150,000 cfs

Big Bend Dam (SD)

6/13 Pool Elev: 1419.9 ft-msl

24-hr change: -0.2'

6/13 Ave Inflow: 151,000 cfs

6/13 Ave Release: 145,900 cfs

6/14 Scheduled Release: 150,000 cfs

Fort Randall Dam (SD)

6/13 Pool Elev: 1363.1 ft-msl

24-hr change: 0.6'

6/13 Ave Inflow: 163,000 cfs

6/13 Ave Release: 139,200 cfs

6/14 Scheduled Release: 143,000 cfs

Gavins Point Dam (NE-SD)

6/13 Pool Elev: 1207.3 ft-msl

24-hr change: -0.1'

6/13 Ave Inflow: 145,000 cfs

6/13 Ave Release: 144,800 cfs

6/14 Scheduled Release: 150,000 cfs

Classification: UNCLASSIFIED

Caveats: NONE

NWO

From: Anderson, G Witt NWD
Sent: Tuesday, June 14, 2011 8:36 AM
To: Farhat, Jody S NWD02
Cc: Blechinger, Erik T NWO
Subject: FW: Rep Noem Session (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Jody, we'll hear what G2 reports back, but I take it this may require a laydown of the last 5 years of system ops. MTF.

I think Bob and I will connect with G2 sometime later this morning...perhaps from road if we go to Hamburg.

Witt

-----Original Message-----

From: Grisoli, William T MG HQ02
Sent: Monday, June 13, 2011 3:35 PM
To: Tipton, Robert A Col NWD; Anderson, G Witt NWD
Cc: McMahon, John R BG NWD; Ruch, Robert J COL NWO; [REDACTED], Kevin W [REDACTED]
Subject: Rep Noem Session

Bob/Witt, Would like to provide you some feedback from my session this afternoon with REP Noem. All went well...we do have some due outs since she requested some specific info that I believe Jody and the District is best suited to answer. Focus was still on the decision process and what was done this year vs last five previous years...MTF.
V/R, Bill

Classification: UNCLASSIFIED
Caveats: NONE

NWO

From: Anderson, G Witt NWD
Sent: Tuesday, June 14, 2011 8:31 AM
To: McMahon, John R BG NWD; [REDACTED]
Cc: Ruch, Robert J COL NWO; Hofmann, Anthony J COL NWK; Blechinger, Erik T NWO; Farhat, Jody S NWD02; [REDACTED]
Subject: RE: Arriving Wed (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Roger Sir. Will give you a chance to do the DVIDs session Friday if you want to do that and the Codel visit Monday in NWK AO.

To make sure you are tracking latest schedule for 21 June - we have levee vegetation session with Jim Waldo, G2 and HQ folks at 0730, session with Ms Darcy at 0930 (CR Treaty), 1200-1300 White House and 1315-1430 DC Departments/agencies on CR Treaty.

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VR
Witt

-----Original Message-----

From: McMahon, John R BG NWD
Sent: Tuesday, June 14, 2011 6:22 AM
To: Anderson, G Witt NWD; [REDACTED]
Cc: Ruch, Robert J COL NWO; Hofmann, Anthony J COL NWK
Subject: Arriving Wed

At 1205 PM into Omaha--will spend the rest of the day at NWD-Omaha. Don't know the details of Congressional Visit on Monday--but want to get into DC later that day, 20 June. Will need hotel in Omaha thru Mon? Then in DC thru? Thanks.
Vr/John McMahon

Classification: UNCLASSIFIED
Caveats: NONE

NWO

From: Hofmann, Anthony J COL NWK
Sent: Wednesday, June 15, 2011 9:07 PM
To: McMahon, John R BG NWD
Cc: Ruch, Robert J COL NWO; [REDACTED] NWD; Blechinger, Erik T NWO; Farhat, Jody S NWD02
Subject: Missouri River recent flood history
Attachments: Missouri River Flood 07 08 09 10.docx

Sir-

As requested, here's the summary of recent heavy precipitation years in the basin.
If questions, we'll get you the right answers.

V/r,

Tony

Building Strong!

Colonel Anthony J. Hofmann, PMP
Commander, Kansas City District
U.S. Army Corps of Engineers

Office: (816) 389-3202

Fax: (816) 389-2027

<http://www.nwk.usace.army.mil/>

Lower Missouri River Basin Significant 2007 – 2010 Events Kansas City District

Summary

For the last several years the Kansas City District has been in an almost continuous cycle of flood response and flood recovery. Flooding in and along the lower Missouri River and its tributary system damaged more than a third of the levee systems participating in Kansas City District's Rehabilitation and Inspection Program during this period. Of the 75 levee systems either repaired or scheduled for repair, 68 are located in Missouri, 8 in Kansas, and 1 in Nebraska (two levee systems are located in two states).

The following flood events were precipitation driven with minimal release from Gavins Point. The current 2011 flood event is different than those summarized below as it is driven by flooding upstream of the mainstem projects versus short duration downstream floods.

2007 Flooding

- During the weekend of May 4-7, 2007, a strong upper level storm system generated numerous rounds of heavy rainfall across the Midwest. The four day totals included widespread four inches of rain with isolated areas of 6 to 8 inches. The peak Missouri River stages were a result of this short event.
- Most rain occurred within uncontrolled portions of the basin, downstream of the mainstem and tributary lake projects.
- Gavins Point release was 8,000 cfs during this event and the peak flow at St Joseph was 183,000 cfs.
- 569 homes and 72 businesses in 18 counties were impacted by the flooding.
- 15 non-federal levees along and near the Missouri River were overtopped or breached between Atchison and Leavenworth KS, and between Sibley and Brunswick.
- Five out of 10 Missouri River gauge sites experienced a crest that is within their top three historical crests.
- The Platte River, a Missouri River tributary upstream of Kansas City rose to a stage 5 inches above the levels of 1993.
- The Grand River basin experienced flooding from northern Missouri to the confluence with the Missouri River.
 - The Grand River stage at Sumner was the third highest of record.
 - The water crested 3.5 ft. below the top of the Federal levee near Brunswick, MO.
- From June 27, 2007 through July 1, 2007 approximately 15 inches of rain occurred on the Marias des Cygnes watershed in eastern Kansas, causing widespread flooding in Kansas and along the Osage River in Missouri.
 - The event overtopped the Federal levee at Osawatomie, Kansas.
 - On 12 July 2007 Truman Lake crested at 730.22 feet, the sixth highest on record

2008 Flooding

- In June, heavy rains occurred from central Oklahoma, eastern Kansas, northwestern Missouri, and southern Iowa causing the Missouri River to be above flood stage for the entire length from Rulo to St. Charles.
- Gavins Point release varied between 10,000 and 18,000 cfs during this event. The peak Missouri River flow at Rulo was 167,000 cfs.
- Missouri River crests at Rulo, NE were the 5th highest stage in 2008. The stage is comparable to the 2007 event even though the flow in 2008 was less. Improvements to the levee system have likely resulted in higher stages for lower flows.
- Repairs, undertaken by the Corps of Engineers, to 2007 flood damages to Federal and non-Federal levees provided important protection to homes, businesses and crops.
- On the eastern side of Missouri, extraordinary flooding of the Mississippi River occurred in June, resulting from two major rainfall events in Wisconsin and Iowa.
- As the floodwaters moved south, the Mississippi River produced near-record flooding from Canton, MO to Clarksville, MO with major flooding also reported at Grafton, IL and Chester, IL.

2009 Flooding

- No significant basin wide events in 2009.
- Rainfall rates greater than 2 inches per hour on May 19, 2009 caused localized flash flooding in Northwest Missouri. Rainfall totals were as high as 5 inches in some locations.

2010 Flooding

- Heavy rainstorms in early and mid-June resulted in moderate to major flooding in the Missouri River Basin mainly upstream of Kansas City, MO.
- The Rulo, NE gauge experienced the highest historic stage on June 23, 2010 (26.6 feet). The stage was 0.3 feet higher than 1993, but the flow was only 216,000 cfs (307,000 cfs in 1993).
- Three non-federal levees in the Rulo area overtopped and then breached, causing extensive farmland flooding.
- The St. Joseph, MO gauge crested at 26.2 feet on June 25th with the fourth highest historic stage.
- The Waverly, MO gauge crested at 28.5 feet on June 18th with the eighth highest historic stage.
- Just above Waverly, the Baltimore Bend non-federal levee failed (breached). The water flowed downstream along a lower portion of the farmlands and then back into the river through an intentional breach in the Belcher-Lozier non-federal levee.
- The releases from Gavins Point Dam were at 27,000 cfs through early June. The releases were reduced to 22,000 cfs June 12-14 to help alleviate downstream conditions. The releases were then raised to 33,000 cfs as the Gavins Point climbed to near the top of the gates. Gavins Point releases were again reduced to 15,000 cfs from June 20-23 to reduce the second Missouri River crest on June 23-24.

NWO

From: Blair, Amy E NWK
Sent: Wednesday, June 15, 2011 8:22 PM
To: Hofmann, Anthony J COL NWK; Farhat, Jody S NWD02; [REDACTED] NWK
Subject: FW: Request for USACE representative for Teletown Hall tomorrow evening at 8:15 ET (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE
COL Hofmann, Jud and Jody,

Thanks coming from Congresswoman Jenkins' office. While that incoming portion was rocky, I feel we did an excellent job portraying the facts at hand and answering all the questions we received.

Thanks for making the effort to participate!

V/R,

Amy

From: Brainard, Colin [mailto:Colin.Brainard@mail.house.gov]
Sent: Wednesday, June 15, 2011 8:15 PM
To: Blair, Amy E NWK
Subject: RE: Request for USACE representative for Teletown Hall tomorrow evening at 8:15 ET (UNCLASSIFIED)

Amy,

Please give our sincerest thanks to Col. Hoffman, Jud and Jody for their participation in this evening's teletown hall.

And thank you so much for coordinating with us, Amy!

-Colin

From: Blair, Amy E NWK [mailto:Amy.E.Blair@usace.army.mil]
Sent: Wednesday, June 15, 2011 6:05 PM
To: Brainard, Colin
Subject: RE: Request for USACE representative for Teletown Hall tomorrow evening at 8:15 ET (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE
Shouldn't be an issue but I will double check.

From: Brainard, Colin [mailto:Colin.Brainard@mail.house.gov]
Sent: Wednesday, June 15, 2011 5:03 PM
To: Blair, Amy E NWK
Subject: RE: Request for USACE representative for Teletown Hall tomorrow evening at 8:15 ET (UNCLASSIFIED)

Amy,

Would it be possible for the USACE folks to call in a little bit early, at 8:05 et / 7:05 ct, to have a brief coordinating discussion with Congresswoman Jenkins, Governor Brownback, and the rest of the agencies?

Thanks!

-Colin

From: Brainard, Colin
Sent: Wednesday, June 15, 2011 5:14 PM
To: 'Blair, Amy E NWK'
Subject: RE: Request for USACE representative for Teletown Hall tomorrow evening at 8:15 ET (UNCLASSIFIED)

Amy,

At the beginning of tonight's call, Governor Brownback will introduce each agency. We ask that at this time Col. Hoffman speak briefly (1-2 minutes) on the situation and the USACE efforts. Each other agency involved on the call will do the same.

Thanks!

-Colin

From: Blair, Amy E NWK [mailto:Amy.E.Blair@usace.army.mil]
Sent: Tuesday, June 14, 2011 5:01 PM
To: Brainard, Colin
Subject: RE: Request for USACE representative for Teletown Hall tomorrow evening at 8:15 ET (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE
Clarification - Both COL Hofmann/Jud and Jody Farhat?

From: Brainard, Colin [mailto:Colin.Brainard@mail.house.gov]
Sent: Tuesday, June 14, 2011 4:00 PM
To: Blair, Amy E NWK
Subject: RE: Request for USACE representative for Teletown Hall tomorrow evening at 8:15 ET (UNCLASSIFIED)

Thank you, Amy. The host line number is:

877-229-8523; PIN = 33996

We will get you a more formal invite soon.

-Colin

From: Blair, Amy E NWK [mailto:Amy.E.Blair@usace.army.mil]
Sent: Tuesday, June 14, 2011 4:35 PM
To: Brainard, Colin
Subject: RE: Request for USACE representative for Teletown Hall tomorrow evening at 8:15 ET (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

They plan to be on one line, but Jody Farhat from our Reservoir Control Central will be participating and that is a separate line.

From: Brainard, Colin [mailto:Colin.Brainard@mail.house.gov]
Sent: Tuesday, June 14, 2011 3:34 PM
To: Blair, Amy E NWK
Subject: RE: Request for USACE representative for Teletown Hall tomorrow evening at 8:15 ET (UNCLASSIFIED)

Amy, do you know if Col. Hoffman and Mr. [REDACTED] plan to call from the same line, or separate lines?

I ask because we need to know how many host lines to obtain for the call. Thanks!

-Colin

From: Blair, Amy E NWK [mailto:Amy.E.Blair@usace.army.mil]
Sent: Tuesday, June 14, 2011 2:23 PM
To: Brainard, Colin
Cc: Leopold, Pat; Calderon, Kathy
Subject: RE: Request for USACE representative for Teletown Hall tomorrow evening at 8:15 ET (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE
Colin,

COL Anthony Hofmann, District Engineer of the Kansas City District and Jud Kneuen, Chief of Emergency Management will plan to participate.

Please let me know how they should plan to call in.

Thanks.

From: Brainard, Colin [mailto:Colin.Brainard@mail.house.gov]
Sent: Tuesday, June 14, 2011 12:26 PM
To: Blair, Amy E NWK
Cc: Leopold, Pat; Calderon, Kathy
Subject: RE: Request for USACE representative for Teletown Hall tomorrow evening at 8:15 ET (UNCLASSIFIED)

Amy,

Rep. Jenkins and Gov. Brownback will act as moderators during the call. The purpose of the call is for residents of Northeast Kansas to have a forum to ask questions of USACE, FEMA, and relevant state agencies to educate them. Since that is the case, we are hoping that at the beginning of the call after a brief introductory remarks from the Congresswoman and Governor, USACE and FEMA representatives will each give a very brief outline of the situation and an update of where everything stands. The remainder of the call will be dedicated to question and answer time. We imagine that most questions will be directed towards Col. Hoffman, the FEMA representatives, and the state agencies.

Since you are familiar with the teletown format, you know that our office will be screening calls to ensure both quality and variety. Rep. Jenkins and Gov. Brownback will be on the call the entire time to act as moderators.

Let us know if you need any other information.

-Colin

From: Blair, Amy E NWK [mailto:Amy.E.Blair@usace.army.mil]
Sent: Tuesday, June 14, 2011 12:40 PM
To: Brainard, Colin
Cc: Leopold, Pat; Calderon, Kathy
Subject: RE: Request for USACE representative for Teletown Hall tomorrow evening at 8:15 ET (UNCLASSIFIED)

Classification: UNCLASSIFIED

Caveats: NONE

Colin, as I am trying to get Colonel Hofmann to participate, I'd like some more information about what your expectation from USACE is - what do you want us to talk about, details.

While I am familiar with the teletown hall format personally, I'd like to hear your interpretation so that I might better prepare our Commander with my request. Thanks.

From: Brainard, Colin [mailto:Colin.Brainard@mail.house.gov]
Sent: Tuesday, June 14, 2011 11:18 AM
To: Blair, Amy E NWK
Cc: Leopold, Pat; Calderon, Kathy
Subject: RE: Request for USACE representative for Teletown Hall tomorrow evening at 8:15 ET (UNCLASSIFIED)

Amy,

Thanks for your prompt reply. I will let you know if we need additional information, and we are looking forward to working with you on the upcoming call.

-Colin

From: Blair, Amy E NWK [mailto:Amy.E.Blair@usace.army.mil]
Sent: Tuesday, June 14, 2011 12:13 PM
To: Brainard, Colin
Cc: Leopold, Pat; Calderon, Kathy
Subject: RE: Request for USACE representative for Teletown Hall tomorrow evening at 8:15 ET (UNCLASSIFIED)

Classification: UNCLASSIFIED

Caveats: NONE

Thanks, Colin.

I had been trying to follow up with Melissa, and I am glad you have reached out. I will see if we can get a liaison and let you know.

Please let me know if there is anything I can do to help provide you more information for you or your boss.

From: Brainard, Colin [mailto:Colin.Brainard@mail.house.gov]
Sent: Tuesday, June 14, 2011 11:04 AM
To: Blair, Amy E NWK
Cc: Leopold, Pat; Calderon, Kathy
Subject: Request for USACE representative for Teletown Hall tomorrow evening at 8:15 ET

Amy,

Thank you again for Col. Hoffman's participation in last Friday's windshield tour of the lower Missouri River communities with Rep. Jenkins and Rep. Graves.

I want to inform you that Congresswoman Jenkins and Governor Brownback will be hosting a teletown hall tomorrow evening from 8:15 p.m. ET for approximately one hour regarding flooding of the lower Missouri River and affected areas in Northeast Kansas.

We would like to invite a representative of the USACE Kansas City District to participate in the call and answer questions if needed. We also plan on inviting representatives from FEMA to answer questions about possible disaster assistance and NFIP.

Please let us know if Col. Hoffman or another Corps representative can participate. Thank you in advance.

Colin C. Brainard
Legislative Assistant
Rep. Lynn Jenkins, CPA

Classification: UNCLASSIFIED
Caveats: NONE

Classification: UNCLASSIFIED
Caveats: NONE

Classification: UNCLASSIFIED
Caveats: NONE

Classification: UNCLASSIFIED
Caveats: NONE

Classification: UNCLASSIFIED
Caveats: NONE

Classification: UNCLASSIFIED
Caveats: NONE

Classification: UNCLASSIFIED
Caveats: NONE

[REDACTED] NWO

From: [REDACTED] NWO
Sent: Wednesday, June 15, 2011 7:55 PM
To: [REDACTED] NWO; Farhat, Jody S NWD02
Subject: RE: Noem request (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: FOUO

[REDACTED]

The only thing I can think of is that were in flood fight mode on the Big Sioux River basin due to the snowpack in that basin. We have essentially been in a flood fight since Feb. I don't know if this all corresponds but it is all I can think of.

[REDACTED]
Chief, Readiness Branch
U.S. Army Corps of Engineers - Omaha District
1616 Capitol Ave., Ste 9000
Omaha, NE 68102
[REDACTED] Office
[REDACTED] Blackberry
[REDACTED]@usace.army.mil

-----Original Message-----

From: [REDACTED] NWO
Sent: Wednesday, June 15, 2011 3:33 PM
To: Farhat, Jody S NWD02; [REDACTED] NWO
Subject: Noem request

Jody [REDACTED]: Congresswoman Noem has a constituent that stated that the Corps put themselves on flood alert on 1 March. This is NOT true, correct?

[REDACTED]
Chief of Planning
Congressional Liaison
US Army Corps of Engineers
Omaha District
1616 Capitol Avenue
Omaha, NE 68102-4901
[REDACTED] (o)
[REDACTED] (c)

Classification: UNCLASSIFIED
Caveats: FOUO

NWO

From: [REDACTED] NWO
Sent: Wednesday, June 15, 2011 7:35 PM
To: DLL-CENWO-EOC CMT-ALL
Cc: CENWD-EOC NWD; [REDACTED] NWO; Hutson, Marc B COL MIL USA
USARNORTH; [REDACTED] MIL USA USARNORTH; [REDACTED] HQ02; [REDACTED]
[REDACTED] SAW
Subject: Flood Update #91 (UNCLASSIFIED)
Attachments: NWO Flood Fight Materials 14 Jun.xlsx; 24 hr rainfall.jpg; QPF day 1.gif; QPF day 2.gif; QPF day 3.gif; Percent of Normal.docx; tempoutlook15_june.xls; dailybull 6_15_11.pdf; mainstembull 6_15_11.pdf; MR_Levee_Freeboard_061511.pdf; 24-hr precipitation totals ending 7am June 15.xlsx; Missouri River Basin Water Management Situation Report 6-15-11.docx

Classification: UNCLASSIFIED
Caveats: FOUO

****EMERGENCY OPERATIONS****

1. Situation:

Over the past 24 hours, heavy rainfall amounts were mainly across the northern plains. South central North Dakota had about 0.50" on average however isolated amounts of 1.75-2.60" were reported between Bismarck and Jamestown. This same area has had precipitation over the last 3 days. Some 3 day precipitation accumulation totals are Bismarck 1.30", Dickinson 1.70", Jamestown 2.17" and Garrison 1.26".

A series of large systems will be moving across the northern Rockies and into the northern Plains region over the next several days. This will bring continued chances for showers and thunderstorms. Some indications (see attached document "percent of normal") in the 10 day forecast show that much of the central and northern plains precipitation will be anywhere from 200-500% above normal. Temperatures will remain cool over the northern Rockies continuing to delay snowmelt.

Additionally, winds continue to impact eastern Montana, North Dakota and South Dakota. Wind forecasts are as follows:

Fort Peck: West winds 10-15 mph with gusts 20-25 mph today, becoming northwest overnight and gusting 20-25 mph. Light southwest winds through Wednesday.

Williston: West northwest winds 15-20 mph with gusts 20-25 today, becoming light and variable overnight and into Wednesday morning. Southwest winds 10-15 mph Wednesday afternoon.

Garrison: Northwest winds 15-25 mph with gusts 25-30 mph today, decreasing to light overnight winds that shift to the southeast. Wednesday afternoon southeast winds increase to 10-15 mph.

Oahe: Northwest winds 20-25 mph with gusts 25-30 mph today, becoming light, southeast winds overnight. Light winds Wednesday morning increase to southeast winds 10-15 mph on Wednesday afternoon.

Iowa/Missouri:

Hamburg, IA: Ditch 6 Levee Raise:

Segment #1 - Fill completed to 919, working on 3:1 slope on wet side, will continue poly placement on north end to tie-in and wrap 3 ft raise for entire length.

Segment #2 - Fill completed to 919, working on 3:1 slope on wet side, will commence poly placement today.

Segment #3 - Fill complete to 918, hauling borrow to complete to 919, will commence poly placement today.

Segment #4 - (HESCO's) Placement complete and working on finishing poly wrap closure and placing sandbags in sagged area.

Segment #5 - (HESCO's) Placement near completion and working on finishing poly wrap closure.

Closures: HWY 333 Completed and brought to 919 completing Segments #1 and #2; RR Closure between Segments #2 and #3 bringing up to grade to tie to 919; South RR Closure-City completed closure, fill completed to 919 and poly wrap placement underway by City At approximately 1300 CDT water surface elevation was 909.7 just west of the Hwy 333 closure.

MR Federal Levee L-601 - Mills County, IA: Requested direct assistance for protecting critical areas within Mills County near an area of concern in Levee 601 located approximately 1.25 mile south of Paddock Ave on 195th St in Mills County. Two rodent holes were discovered today approximately 20' apart that water was pushing through the levee. The sponsor reacted quickly and filled the holes to slow the water to a seep. USACE will construct a piggyback in this area. Contract award anticipated tomorrow. Areas of potential inundation include agricultural land, Bartlett, IA and I-29.

Montana:

Ft. Peck Dam, MT - 24-hour surveillance continues on the dam and the spillway. Work to install a temporary overhead line to restore primary power to the spillway remains delayed due to parts needed for the power line. Backup generators are being used to make gate changes in the interim.

A structural engineer assessment indicated that the continued scour along the length of the wing wall is as important as the depth of the scour. He recommends placing appropriately sized riprap along the wing wall to reducing the scour depth along the face of the wall. Additional analysis is recommended to identify critical scour depth and ensure that the structure is analyzed appropriately (structural, geotechnical, & hydraulic). They are continuing to monitor this area closely. It is further recommended that we try to investigate the extents of the scour hole (width and depth).

No other Significant Dam Safety Issues.

North Dakota:

City of Williston requested technical and direct assistance. A meeting is being held with the city, Mark Clark will attend the meeting and Omaha Hydrology and Hydraulics personnel will teleconference to provide assistance.

2. Weather:

2.a. Future Precipitation:

The Day 1 QPF (from 700 hours Wednesday to 700 hours Thursday): Not much going on. See attached.

The Day 2 QPF (from 700 hours Thursday to 700 hours Friday):

Some very heavy rainfall is possible across a good section of the central plains along a warm front. This front will basically extend across the entire Missouri River Basin. Rich moisture will be in place across the central plains and precipitation amounts along this boundary of near 1.75" are certainly possible. See attached.

The Day 3 QPF (from 700 hours Friday to 700 hours Saturday):

Heavy rainfall is expected again along the warm front, however this front should shift north into the northern plains. Locally heavy rainfall will be possible once again. See attached.

2.b. Temperature forecast:

Temperatures will remain cool over the northern Rockies which will continue to delay snowmelt.

See attached temperature table.

3. Hydro Status:

3.a. River (Flood Stage/Current Stage/Forecast/Date of Peak: Peak Stage) Montana

- * Yellowstone River at Forsyth/10.0/9.89/steady/Jun 19: 10.9'
- * Yellowstone River at Miles City/13.0/12.51/rising/Jun 19: 13.4'
- * Yellowstone River at Glendive/53.5/51.82/rising/Jun 20: 52.4'

- * Yellowstone River near Sidney/19.0/17.3/cresting/
- * Jefferson River near Three Forks/8.0/9.09/steady/Jun 15: 9.14'
- * Gallatin River near Logan/8.0/8.81/rising/Jun 16: 8.9'
- * Big Hole River near Melrose/6.0/6.65/rising/Jun 16: 6.8'
- * Missouri River near Toston/10.5/11.51/receding
- * Missouri River near Ulm/13.5/13.75/receding/
- * Missouri River near Landusky/25.0/29.62/receding/
- * Missouri River near Wolf Point/13.0/14.48/steady/
- * Missouri River near Culbertson/19.0/16.84/rising/Jun 16: 16.8'
- * Milk River at Tampico/25.0/26.65/receding/
- * Milk River at Nashua/20.0/27.53/receding/

Wyoming

- * North Platte River at Saratoga/8.5/9.8/steady/
- * North Platte River nr Sinclair/9.0/10.28/slow recession/
- * Laramie River at Laramie/5.0/4.93/slow recession/
- * Laramie River near Fort Laramie/7.0/4.72/steady/

North Dakota

- * Missouri River at Williston/22/29.69/rising/Jun 16: 29.9'
- * Missouri River at Bismarck/16.0/18.4/rising/Jun 19: 18.9'
- * James River at Jamestown/12.0/11.24 (1,730 cfs)/steady/
- * Heart River near Mandan/17.0/12.57/rising/Jun 16: 13.4'

South Dakota

- * Missouri River at Pierre/13.0/18.85/steady/
- * Missouri River near Greenwood/30.0/38.05/steady/
- * Missouri River near Gayville/55.0/56.0/steady/

Nebraska

- * North Platte River near Mitchell/7.5/9.33/receding/
- * North Platte River at North Platte/6.0/7.5/steady/
- * Missouri River at Sioux City/30.0/32.98/rising/Jun 20: 33.9'
- * Missouri River at Decatur/35.0/37.63/rising/Jun 20: 37.9'
- * Missouri River near Blair/26.5/31.5/steady/Jun 15: 31.5'
- * Missouri River at Omaha/29.0/33.13/cresting/Jun 15: 33.1'
- * Missouri River at NE City/18.0/25.6/cresting/Jun 15: 25.6'
- * Missouri River at Brownville/33.0/39.83/rising/Jun 20: 41.7'
- * Missouri River at Rulo/17.0/23.62/receding/Jun 20: 25.4'

Note: Brownville and Rulo gages temporarily receding due to L 575 breach

3.b. Reservoirs:

Tributary Reservoirs:

Pipestem Reservoir, (ND) - fell 0.06' to elevation 1484.04 ft-msl. Inflows are near 73 cfs. Pipestem releases were increased from 500 cfs to 600 cfs on 15 June 2011 at 0910. 63.3% of the flood pool is occupied.

Jamestown Reservoir, (ND) - fell 0.07' yesterday to elevation 1444.51 ft-msl. Inflows are approximately 534 cfs. Jamestown releases are being increased from 1,100 cfs to 1,200 cfs on 15 June 2011 at 1230. The combined Jamestown/Pipestem release is 1,800 cfs. 42.4% of the flood pool is occupied.

Heart Butte, (ND) - Reservoir rose 0.06 ft yesterday with 6.7% of its flood control pool occupied. Pactola (SD) dropped 0.36 ft yesterday with 4.3% of the flood pool occupied. Shadehill (SD) fell 0.01 ft yesterday with 2.6% of the flood pool occupied.

Yellowtail, (MT) - rose 0.25 ft to elevation 3634.63 ft-msl with inflows of 16,742 cfs. The release was 15,380 cfs. 89.5% of its multipurpose pool is occupied.

Tiber, (MT) - rose 0.61 ft to elevation 3003.15 ft-msl. Inflows were 7,846 cfs and releases are 1,492 cfs as the USBR stores water to help reduce inflows to Fort Peck. 49.0% of its flood pool is occupied.

Clark Canyon, (MT) - rose 0.41 ft to elevation 5548.83 ft-msl with inflows of 1,379 cfs and releases of 286 cfs as the USBR stores water to help reduce inflows to Fort Peck. 17.9% of its flood control pool is occupied.

Canyon Ferry, (MT) - rose 1.2 ft to elevation 3791.25 ft-msl with inflows of 31,858 cfs and releases of 12,462 cfs as the USBR stores water to help reduce inflows to Fort Peck. 90.0% of its multipurpose pool is occupied.

Glendo, (WY) - rose 0.08 ft to elevation 4638.52 ft-msl with inflows of 8,059 cfs and releases of 7,399 cfs. 16.4% of its flood control pool is occupied.

Missouri River Mainstem Reservoirs: (Water Management SITREP is attached) Following is a link to the Mainstem regulation forecast. Refresh to obtain the most recent copy if you keep this link open.

<http://www.nwd-mr.usace.army.mil/rcc/reports/twout.html>. Notes for data below: pool elevation is the midnight value; average inflows and average releases are average daily values; scheduled releases are the release from the project at the end of the day per yesterday's project orders.

Fort Peck Dam (MT)

6/14 Pool Elev: 2252.2 ft-msl

24-hr change: 0.1'

6/14 Ave Inflow: 79,000 cfs

6/14 Ave Release: 65,800 cfs

6/15 Scheduled Release: 65,000 cfs

Garrison Dam (ND)

6/14 Pool Elev: 1853.7 ft-msl

24-hr change: 0.3

6/14 Ave Inflow: 180,000 cfs

6/14 Ave Release: 140,100 cfs

6/15 Scheduled Release: 140,000 cfs

Oahe Dam (SD)

6/14 Pool Elev: 1618.6 ft-msl

24-hr change: 0.1'

6/14 Ave Inflow: 156,000 cfs

6/14 Ave Release: 150,200 cfs

6/15 Scheduled Release: 150,000 cfs

Big Bend Dam (SD)

6/14 Pool Elev: 1419.7 ft-msl
24-hr change: -0.2'
6/14 Ave Inflow: 148,000 cfs
6/14 Ave Release: 151,500 cfs
6/15 Scheduled Release: 150,000 cfs

Fort Randall Dam (SD)

6/14 Pool Elev: 1363.5 ft-msl
24-hr change: 0.4'
6/14 Ave Inflow: 162,000 cfs
6/14 Ave Release: 142,100 cfs
6/15 Scheduled Release: 143,000 cfs

Gavins Point Dam (NE-SD)

6/14 Pool Elev: 1207.4 ft-msl
24-hr change: 0.1'
6/14 Ave Inflow: 149,000 cfs
6/14 Ave Release: 148,400 cfs
6/15 Scheduled Release: 150,000 cfs

4. Emergency Operations:

4.a.1 Nebraska

North Platte, NE - Airport Levee Raise construction is 90% complete and on schedule for construction complete June 16, 2011.

Bellevue (Offutt Air Force Base), NE - Papio NRD (sponsor of R613-R616) and Base Civil Engineering staff to develop course of action for 24-7 Levee Surveillance. On-Site training to be provided on Monday, 20 June.

Gothenburg, NE - Technical assessment was conducted on 14 and 15 June with out-brief provided to City of Gothenburg officials.

4.a.2 Montana

Roosevelt County Wolf Point and Poplar, MT - providing technical assistance; Joel Ames continues working with the Tribes to address their concerns.

4.a.3 North Dakota

Williston, ND - Continue to monitor boil areas and seepage areas along entire levee with increased seepage and some movement of material is occurring in the area of the sand berm. A construction representative has been sent to Williston from the Black Hills Area Office to monitor the contractors progress.

Fort Yates, ND - Standing Rock Sioux Tribe (SRST): Second contract is approximately 90% complete and should be complete today.

Garrison Dam, ND - No additional signs of distress on embankment noted. No other significant dam safety issues to report.

4.a.4 South Dakota

Pierre/Ft. Pierre, SD - Ft. Pierre Levee was turned over to the sponsor 15 June 2011.

Fort Randall Dam: Maintenance crews finished the spill repairs and have sealed the drains on the west side of the spillway this morning. Work will now move to the east side. Spillway flows will be moved back to the west side this afternoon while the east side work is completed.

Oahe Dam; Big Bend Dam; Fort Randall Dam; Gavins Point Dam; No significant dam safety issues.

4.a.5 Wyoming - NSTR

4.a.6 Iowa/Missouri

Harrison County: Requested Technical Assistance for levee and interior pumping expertise, requested 5 - 8" pumps and 4 - 16" pumps. Currently we only have 1 - 8" pump and 2 - 16" pumps in Omaha to send.

Mills and Pottawattamie Missouri River District: Requested emergency assistance and repair to install a reverse sand blanket at station 677+80 to address multiple sand boils. A cooperative agreement was signed today a scope and IGE are in development.

4.a.7 Missouri River Levee Surveillance Multiple teams comprised of Omaha District and out-of-District staffs continue to coordinate with local sponsors on any issues/concerns they may have, as well as conduct surveillance on levee conditions. Seepage areas/boils have been observed along the levees. Teams have been providing assistance to Sponsors when seepage areas/boils and other actionable items are observed.

Omaha-Missouri River RB: On south side near I80 overpass, a medium boil was ringed and is being monitored. Omaha levees from south end at WWTP, upstream to south of ConAgra HQ are generally in good shape, some seepage is occurring through manholes. Sponsor is aware and working on it. A boil present at Airport along 24" line is believed to be groundwater (piezometers show 5' of head nearby), and the problem will be fixed with filter fabric with sand. Sponsor is proactive and monitoring.

L627-MO River LB & Indian Creek RB: A 5'x7' sinkhole 4' deep formed around a storm sewer pipe near a drainage structure at the toe of the levee. The pipe will either be grouted or plugged and the space around the pipe will be grouted. Levee system appears to be in relatively good shape. Water has risen 0.5-1.0' since yesterday. Water level observed on landside on landside to be equal to water level observed on riverside at 41deg11"N 95deg53"W.

L601-Watkins Ditch RB: Water over 195th St and flowing well. Two 4-6" tunnels through levee that was flowing water through from river to landside and riverside has been filled with Bentonite and sandbagged. Land side has been sandbagged. Plastic is going to be placed to seal hole from riverside, however location of hole inlets on riverside is somewhat unclear.

L575-BW, McKissock, Buchanan, Atchison, Hamburg: At Ditch 6 levee 1380' of Hesco barriers need to be raised by 1' along interstate. Raising of Ditch 6 levee to 919' continues. Water began flowing through the notch at 1405. The sponsor has been notified and is aware.

R548- MO River and Little Nemaha: Team was called to investigate reported sloughing near staff gage 24. The county had placed dirt on riverside of levee and not adequately compacted and it washed away with high water. Team recommended that the sponsor place sandbags in that area. Sponsor is also reporting that sand boils have stopped flowing likely because river level is 1' lower than yesterday.

Levees with NSTR: L624-MO River & Indian LB & Mosquito Creek RB; L624-627/614/611-Mosquito Creek and Upper Pony Creek; L611/614- MO River LB & Upper Pony Creek Ditch LB; L601/594; L594/575-BW, PV, Waubonsie; L550/561 MO River LB; L536/550 Turkey Creek; R516/613 MO River RB and Papillion Creek LB; R613-Platte LB and Papillion RB and MO River RB; Lake Waconda; R573-MO River RB; R562-Peru; R520-MO River RB.

4.b Equipment:

Sandbags

Issued: 14,277,000

On Hand: 5,660,500

Projected: 6,500,000

HESCO 3 FT
Issued: 8,200 LF
On Hand: 9,000 LF
Projected: 14,000 LF

HESCO 4 FT
Issued: 59,070 LF
On Hand: 0 LF
Projected: 30,000 LF

Poly Rolls
Issued: 2,666 rolls
On Hand: 2,034 rolls
Projected: 1,500 rolls

Pumps
Issued: 44
On Hand: 7
Serviceable: 2
Projected: 25

Additional Supplies due in:

Pumps: 5 pumps in maintenance for parts/repair (MRPO tech).
Sling Bags: 300 ea. 2,000 lb heavy bags with slings on-hand.
HESCO 4 FT: 14,000 LF, ETA 15 June.
HESCO 4 FT: Additional 15,000 LF, ETA 18 June.
Sandbags: 2.9 million due in 15/16 June.
Pumps: Working BPA now for lease options.

4.c Funding:

- * Total Code 200 Funding received to date for this event: \$47,662,425
- * Total Code 200 Funding waiting to be received for this event: \$0
- * Total Code 200 Funding revoked to date for this event: \$2,834,000
- * Class 219 - Emergency Operations - Direct Assistance - \$250,000 - WAD and FAD received 3/14/2011
- * Class 219 - Emergency Operations - Direct Assistance - \$3.825M - WAD received 03/15/11. FAD received 03/16/11.
- * Class 219 - Additional Funds Request on 24 March - \$231,425 - WAD and FAD received 03/24/11.
- * Class 219 - Emergency Operations - Direct Assistance - \$2.5M revoked - 4/13/11
- * Class 219 - Emergency Operations - Direct Assistance - \$100k revoked - 4/22/11
- * Class 210 - Response Operations - Alabama Tornadoes - \$56k - MIPR - 4/30/11 - received \$45k on 4/30/11
- * Class 210 - Response Operations - Alabama Tornadoes - \$25k - Request and received for EOC Operations and deployments on 4/30/11
- * Class 210 - Response Operations - Alabama Tornadoes - \$14k revoked - 05/02/2011
- * Class 210 - Response Operations - Alabama Tornadoes - \$10k revoked - 05/03/2011
- * Class 200 - Emergency Operations - Response Operations - \$500,000 - WAD and FAD received on 05/25/11
- * Class 200 - Emergency Operations - Response Operations - \$750,000 - WAD and FAD received on 05/26/11
- * Class 200 - Emergency Operations - Response Operations - \$5,000,000 - FAD received 05/27/11
- * Class 200 - Emergency Operations - Response Operations - \$10,000,000 - FAD received 05/27/11

* Class 200 - Emergency Operations - Response Operations - \$3,000,000 - request sent 05/27/11 - WAD received for \$2M received on 05/31/11 - verbal received on 06/04/11 for \$1M

* Class 200 - Emergency Operations - Response Operations - \$10,000,000 - request sent 05/28/11 - WAD received on received 05/28/11

* Class 200 - Emergency Operations - Response Operations - \$3,000,000 - request sent 05/31/11 - WAD received 06/01/11

* Class 200 - Emergency Operations - Response Operations - \$6,500,000 - request sent 06/01/11 - WAD for \$3M received 06/02/011 - verbal received on 06/04/11 for \$3.5M

* Class 200 - Emergency Operations - Response Operations - \$1,500,000 - request sent 06/03/11 - verbal received 06/03/11

* Class 200 - Emergency Operations - Response Operations - \$1,000,000 - request sent 06/03/11 - verbal received 06/03/11 - WAD received 06/06/11

* Class 200 - Emergency Operations - Response Operations - \$500,000 - request sent 06/04/11 - verbal received 06/04/11

* Class 200 - Emergency Operations - Response Operations - \$2,000,000 - request sent 06/05/11 - verbal received 06/05/11

* Class 200 - Emergency Operations - Response Operations - \$400,000 - request sent 06/06/11 - verbal received 06/07/11

* Class 200 - Emergency Operations - Response Operations - \$50,000 - received 06/08/11

* Class 200 - Emergency Operations - Response Operations - \$980,000 - request sent 06/08/11 - WAD received 06/09/11

* Class 200 - Emergency Operations - Response Operations - \$750,000 - request sent 06/09/11 - WAD received 06/10/11

* Class 21M - Emergency Operations - Response Operations - \$210k revoke request sent 06/10/11

* Total Code 500 Funding received to date: \$827,904

* Class 520 Funding - Advance Measures - Technical assistance - \$100K. WAD and FAD received on 3/2/11.

* Class 52A Additional Request for Funding - Advance Measures - Technical assistance - \$100K. WAD and FAD received on 3/10/11.

* Class 520 Additional Request for Funding - Advance Measures - Technical assistance - \$101,640. WAD and FAD received on 3/24/11.

* Class 519 Funding - Advance Measures - Direct Assistance - \$376,264. WAD and FAD received on 3/28/11.

* Class 520 Funding - Advance Measures - Technical assistance - \$110k - FAD received on 05/12/11.

* Class 510 Funding - Advance Measures - Direct assistance - \$40k - FAD received on 05/26/11

Daily Labor Burn Rate: \$137,500
 Daily Contract Burn Rate: \$300,000
 Combined Daily Burn Rate: \$437,500

4.d Number of Personnel Supporting EOC Operations:
 Working in field: 49
 Working in District: 50
 Outside District: 1

5.a EOC Activation - Level IV - 24 hour Activation (Shifts: 0700-1930)

Kimberly S. Thomas
 Chief, Readiness Branch
 U.S. Army Corps of Engineers - Omaha District
 1616 Capitol Ave., Ste 9000
 Omaha, NE 68102

402-995-2448 Office
402-490-5099 Blackberry
kimberly.s.thomas@usace.army.mil

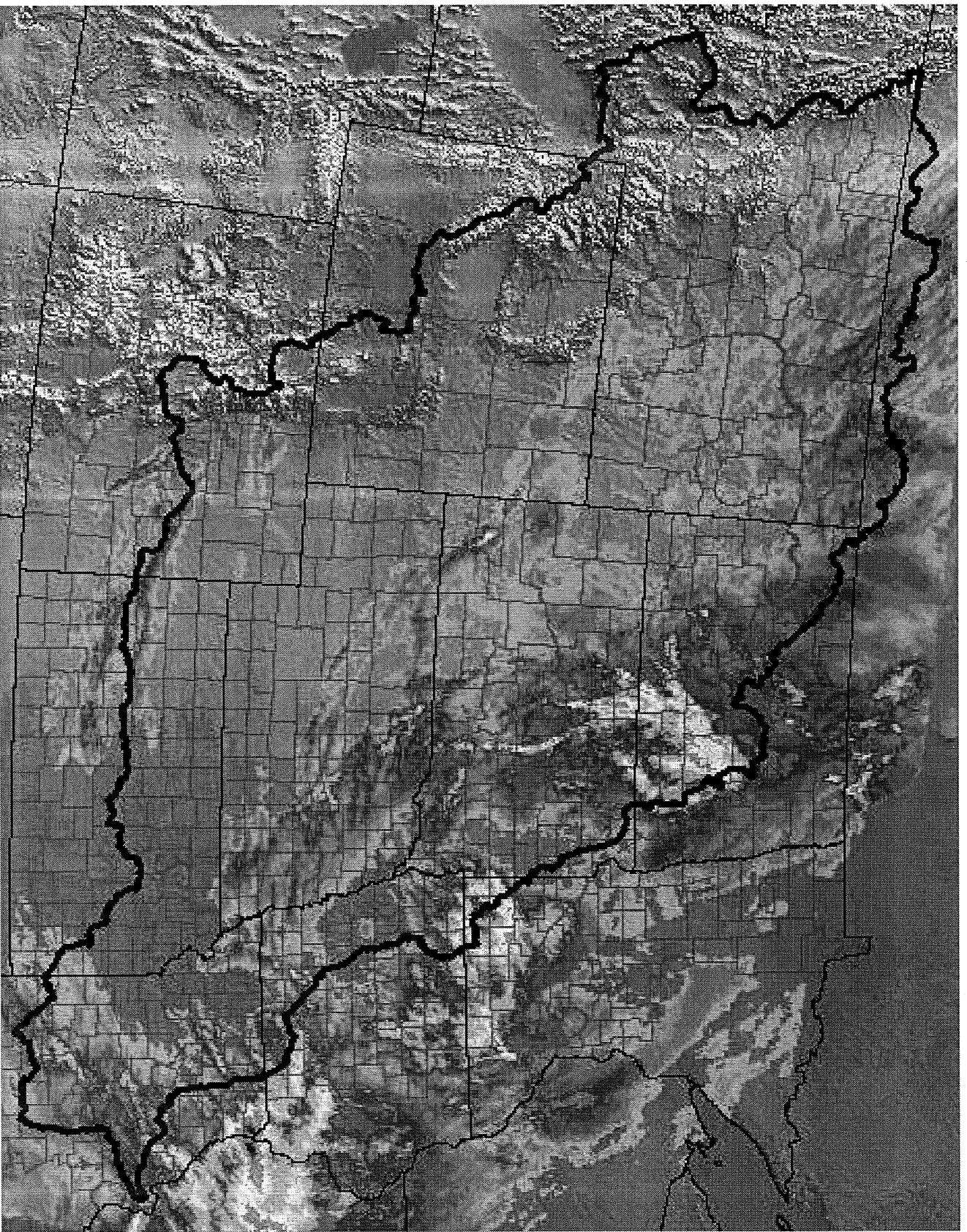
Classification: UNCLASSIFIED
Caveats: FOUO

As of: 170014JUN11

	SANDBAGS	3' HESCO	4' HESCO	POLY ROLLS	PUMPS
ISSUED:	14,277,000	8,200 LF	59,070 LF	2,666 rolls	44
ON HAND:	5,660,500	9,000 LF	0 LF	2,034 rolls	2 / 7
Serviceable / On Hand					
PROJECTED REQTS:	6,500,000	14,000 LF	30,000 LF	1,500 rolls	25

Notes

1. Pumps: 5 pumps in maintenance for parts/repair (MRPO tech).
2. Slingsbags: 300ea 2,000 lb heavy bags with slings on-hand.
3. HESCO: 14,000 LF ETA 15 June.
4. HESCO: Additional 15,000 LF ETA 18 June.
5. Sandbags: 2.9 million due in 15/16 June.
6. Pumps: Working BPA now for lease options.

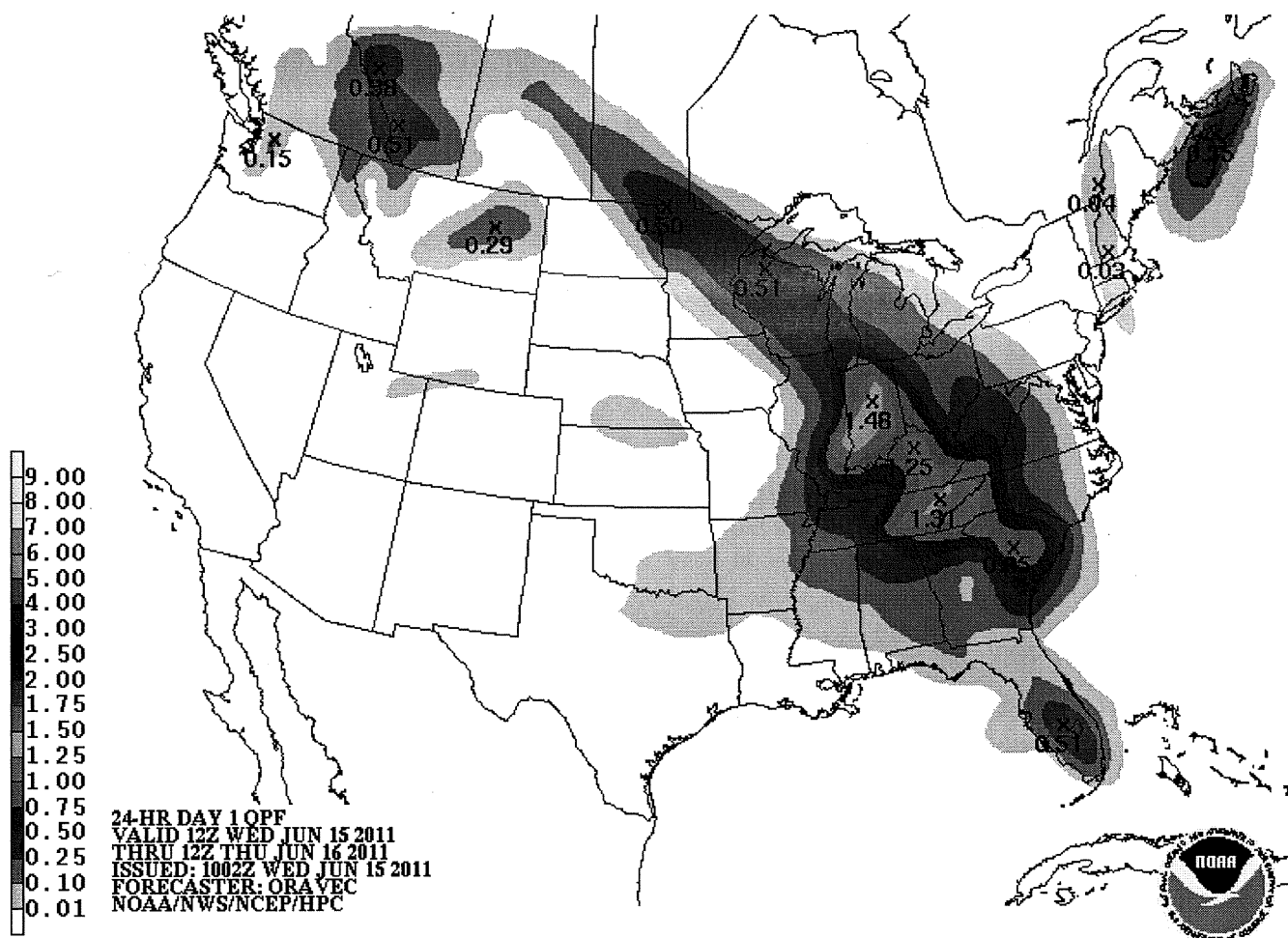


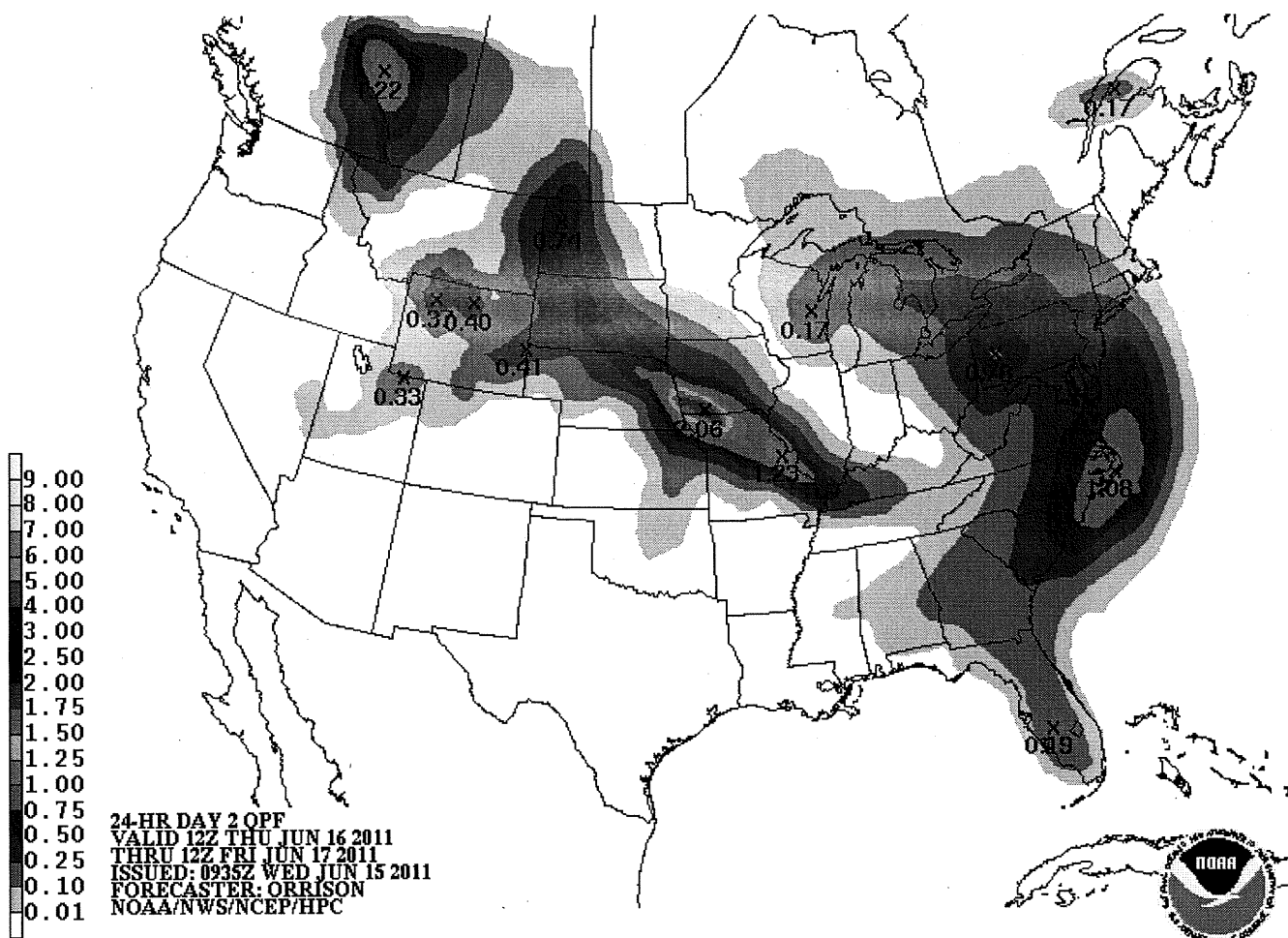
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MBRFC 24-Hour Gage Biased Estimated Rainfall (inches)

Ending: 6/15/2011 at 7:00AM CDT

Created 6/15/2011 at 7:32 AM CDT





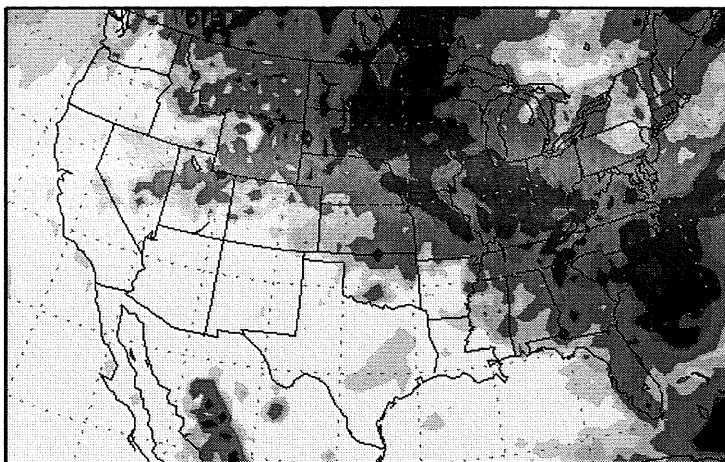
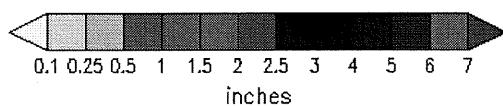
Precipitation Forecast

Precipitation (inches)
during the period:

Wed, 15 JUN 2011 at 00Z

—to—

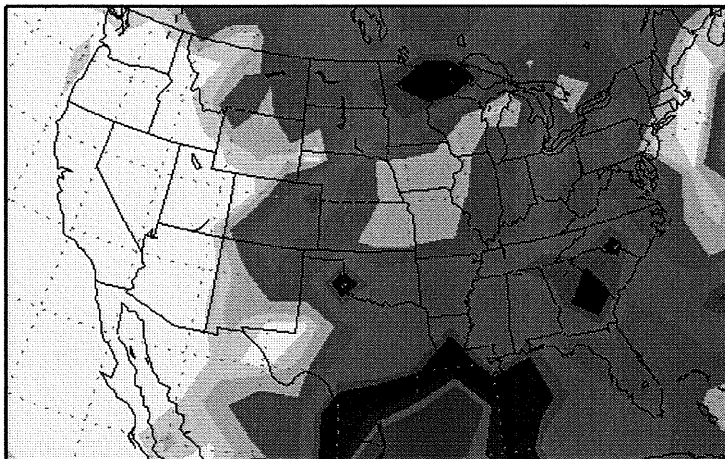
Wed, 22 JUN 2011 at 12Z



Thu, 23 JUN 2011 at 00Z

—to—

Fri, 01 JUL 2011 at 00Z

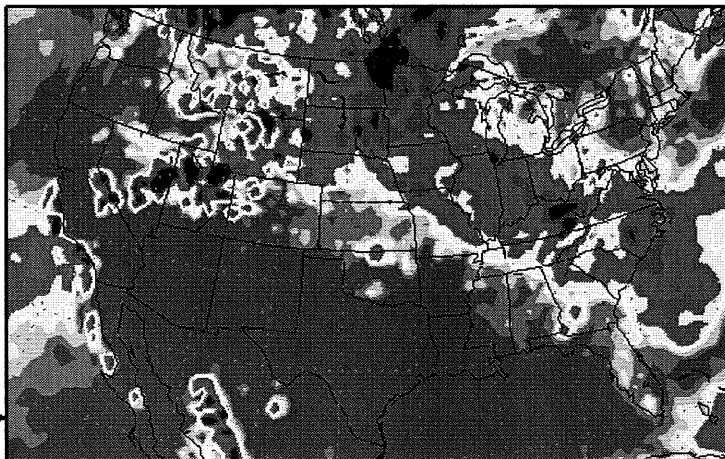
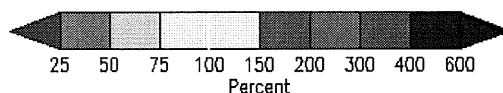


Precipitation (percent of normal)
during the first 7.5-day period:

Wed, 15 JUN 2011 at 00Z

—to—

Wed, 22 JUN 2011 at 12Z



Precipitation forecasts from the National Centers for Environmental Prediction.
Normal rainfall derived from Xie-Arkin (CMAF) Monthly Climatology for 1979–2003.
Forecast Initialization Time: 00Z15JUN2011

7 Day Temperature Forecasts (High/Low)						
15-Jun-11						
Location	Wed	Thu	Fri	Sat	Sun	Mon
	15-Jun	16-Jun	17-Jun	18-Jun	19-Jun	20-Jun
Helena, MT	64	62/38	67/41	70/43	66/47	68/47
Livingston, MT	70	65/41	64/42	69/43	64/43	65/44
Billings, MT	75	69/46	68/48	74/50	71/48	71/49
West Yellowstone, MT	65	57/34	61/33	63/34	57/36	60/35
Cody, WY	74	65/45	67/45	69/47	65/48	64/47
Sheridan, WY	74	69/46	68/49	73/49	70/47	67/49
Casper, WY	83	77/50	74/47	77/49	72/48	68/48
Laramie, WY	75	76/47	73/46	72/51	72/48	67/46

Tue
21-Jun
71/47
65/42
70/48
65/36
67/47
67/46
73/46
70/46



**US Army Corps
of Engineers**
Omaha District

U.S. Army Corps of Engineers, Omaha District

Missouri River Basin

Mainstem and Tributary Reservoir Bulletin

Project Data Date/Time: 06/15/11 12:00 AM

Bulletin Updated: 6/15/11 10:51 AM

Project	Project Information				Current Data					Occupied Storage		
	Elevations (ft msl)		Storage		Elevation (ft msl)	Dly Elev. Change	Storage (ac-ft)	Inflow (dsf)	Release (dsf)	MP (%)	FC (ac-ft)	FC (%)
	MP	FC	MP	FC								
MRR - Missouri River Mainstem Projects												
*Please note Mainstem and USBR data is calculated manually and will populate before 12:00 p.m.												
Fort Peck	2234.0	2250.0	14,788,000	18,463,000	2252.21	0.10	19,010,000	79,000	65,800	100.0	4,222,000	114.9
Garrison	1837.5	1854.0	18,109,625	23,820,730	1853.65	0.27	23,650,000	180,000	140,100	100.0	5,540,375	97.0
Oahe	1607.5	1620.0	18,834,035	23,136,960	1618.64	0.06	22,590,000	156,000	150,200	100.0	3,755,965	87.3
Big Bend	1420.0	1423.0	1,621,484	1,798,614	1419.74	-0.15	1,606,000	148,000	151,500	99.0	0	0.0
Fort Randall	1350.0	1375.0	3,124,368	5,418,186	1363.53	0.41	4,292,000	162,000	142,100	100.0	1,167,632	50.9
Gavins Point	1204.5	1210.0	320,971	469,928	1207.44	0.11	377,000	149,000	148,400	100.0	56,029	37.6
System Totals							71,525,000					
NWO - USBR Section 7 Projects												
Tiber	2993.0	3012.5	925,649	1,328,723	3003.15	0.61	1,123,206	7,846	1,492	100.0	197,557	49.0
Clark Canyon	5546.1	5560.4	174,367	253,442	5548.83	0.41	188,558	1,379	286	100.0	14,191	17.9
Canyon Ferry	3797.0	3800.0	1,891,888	1,992,977	3791.25	1.2	1,703,050	31,858	12,462	90.0	0	0.0
Boysen	4725.0	4732.2	741,594	892,226	4705.56	0.13	434,056	5,830	5,137	58.5	0	0.0
Buffalo Bill	5393.5	5393.5	646,565	646,565	5351.49	0.93	346,348	8,453	5,606	53.6	-	-
Yellowtail	3640.0	3657.0	1,070,000	1,328,000	3634.63	0.25	957,581	16,742	15,380	89.5	0	0.0
Jamestown	1429.8	1454.0	31,510	221,000	1444.51	-0.07	111,907	534	1,081	100.0	80,397	42.4
Heart Butte	2064.4	2094.5	67,000	214,000	2067.36	0.06	76,899	1,295	1,188	100.0	9,899	6.7
Keyhole	4099.3	4111.5	194,000	334,000	4097.73	-0.05	174,240	-223	0	89.8	0	0.0
Pactola	4580.2	4621.5	56,000	99,000	4582.40	-0.36	57,866	218	378	100.0	1,866	4.3
Shadehill	2271.9	2302.0	120,000	350,000	2273.16	-0.01	126,050	456	482	100.0	6,050	2.6
Glendo	4635.0	4653.0	518,000	790,000	4638.52	0.08	562,520	8,059	7,399	100.0	44,520	16.4
NWO - USACE Tributary Projects												
Bowman-Haley	2754.8	2777.0	18,765	91,482	2755.98	0.26	20,884	428	244	100.0	2,119	2.9
Pipestem	1442.5	1496.3	8,944	142,107	1484.04	-0.06	93,294	-139	496	100.0	84,350	63.3
Chatfield	5432.0	5500.0	27,428	234,207	5431.03	-0.05	26,052	15	49	95.0	0	0.0
Cherry Creek	5550.0	5598.0	12,805	133,134	5550.02	-0.03	12,817	3	5	100.0	12	0.0
Bear Creek	5558.0	5635.5	1,882	30,586	5558.33	0.00	1,916	14	17	100.0	34	0.1
Papio #11	1121.0	1142.0	3,054	16,907	1121.38	0.01	3,203	7	5	100.0	149	1.1
Papio #16	1104.0	1121.0	1,211	4,782	1104.09	0.00	1,223	0	0	100.0	12	0.3
Papio #18	1110.0	1128.2	2,916	10,512	1092.20	0.00	262	0	0	9.0	0	0.0
Papio #20	1095.8	1113.1	2,536	8,611	1095.94	0.01	2,558	-1	0	100.0	22	0.4
Cottonwood	3875.0	3936.0	655	8,385	3856.51	0.00	0	0	0	0.0	0	0.0
Cold Brook	3585.0	3651.4	520	7,200	3582.87	0.01	444	0	0	85.5	0	0.0
Lake Audubon	1847.0	1847.0	323,690	323,690	1849.37	0.04	INFLOW AND OUTFLOW NOT CALCULATED					
Lake Pocasse	1617.0	1617.0	11,000	11,000	POOL ELEVATION READ MONTHLY BY PROJECT OFFICE							
Salt Creek #02	1335.0	1350.0	1,100	4,957	1333.83	0.02	920	2	0	83.6	0	0.0
Salt Creek #04	1307.4	1322.5	2,531	9,660	1307.04	0.04	2,418	6	0	95.5	0	0.0
Salt Creek #08	1287.8	1302.0	1,780	8,375	1288.15	0.00	1,692	22	22	95.1	0	0.0
Salt Creek #09	1271.1	1285.0	1,451	5,864	1271.24	0.03	1,478	5	2	100.0	27	0.6
Salt Creek #10	1244.9	1262.0	1,629	7,468	1245.22	0.02	1,697	4	2	100.0	68	1.2
Salt Creek #12	1232.9	1252.0	1,808	9,415	1233.06	0.02	1,841	2	0	100.0	33	0.4
Salt Creek #13	1341.0	1355.0	2,161	7,182	1340.89	0.02	2,135	3	0	98.8	0	0.0
Salt Creek #14	1244.3	1263.5	7,500	27,597	1244.36	0.01	7,541	4	0	100.0	41	0.2
Salt Creek #17	1242.4	1266.0	783	6,628	1242.56	-0.03	827	-1	1	100.0	44	0.7
Salt Creek #18	1284.0	1311.0	25,088	96,759	1284.34	0.01	25,718	26	17	100.0	630	0.9



U.S. Army Corps
of Engineers
Omaha District

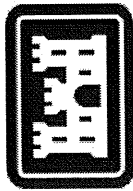
U.S. Army Corps of Engineers, Omaha District

Missouri River Basin

Mainstem Reservoir Bulletin

Bulletin Updated: 6/15/11 10:51 AM

Project	Project Information				Current Data (as of 00:00)				Occupied Storage							
	Elevations (ft msl)		Storage Capacity (ac-ft)		Elevation (ft msl)	Dly Elev. Change	Total Occupied Storage (ac-ft)	Previous Day Avg. Inflow (dsf)	Release (dsf)	Multi-Use		Annual FC		Exclusive		
	Top of Multi-Use	Top of Annual FC	Top of Exclusive	Multiple Use						Annual FC	Exclusive	(ac-ft)	(%)	(ac-ft)	(%)	
TODAY																
Project Data Date/Time 6/15/2011																
Fort Peck	2234.0	2246.0	2250.0	14,788,000	2,704,000	971,000	2252.21	0.10	19,010,000	79,000	65,800	100.0	2,704,000	100.0	1,518,000	156.3
Garrison	1837.5	1850.0	1854.0	18,110,000	4,222,000	1,489,000	1853.65	0.27	23,650,000	180,000	140,100	100.0	4,222,000	100.0	1,318,000	88.5
Oahe	1607.5	1617.0	1620.0	18,834,000	3,201,000	1,102,000	1618.64	0.06	22,590,000	156,000	150,200	100.0	3,201,000	100.0	555,000	50.4
Big Bend	1420.0	1422.0	1423.0	1,621,000	117,000	60,000	1419.74	-0.15	1,606,000	148,000	151,500	99.1	0	0.0	0	0.0
Fort Randall	1350.0	1365.0	1375.0	3,124,000	1,309,000	985,000	1363.53	0.41	4,292,000	162,000	142,100	100.0	1,168,000	89.2	0	0.0
Gavins Point	1204.5	1208.0	1210.0	307,000	86,000	57,000	1207.44	0.11	377,000	149,000	148,400	100.0	70,000	81.4	0	0.0
System Totals				56,784,000	11,639,000	4,664,000			71,525,000				11,365,000		3,391,000	
YESTERDAY																
Project Data Date/Time 6/14/2011																
Fort Peck	2234.0	2246.0	2250.0	14,788,000	2,704,000	971,000	2252.11	0.18	18,985,000	86,000	65,400	100.0	2,704,000	100.0	998,453	102.5
Garrison	1837.5	1850.0	1854.0	18,110,000	4,222,000	1,489,000	1853.38	0.03	23,572,000	190,000	138,700	100.0	4,222,000	100.0	1,240,000	83.3
Oahe	1607.5	1617.0	1620.0	18,834,000	3,201,000	1,102,000	1618.58	0.31	22,580,000	145,000	150,400	100.0	3,201,000	100.0	545,000	49.5
Big Bend	1420.0	1422.0	1423.0	1,621,000	117,000	60,000	1419.89	-0.15	1,614,000	151,000	145,900	99.6	0	0.0	0	0.0
Fort Randall	1350.0	1365.0	1375.0	3,124,000	1,309,000	985,000	1363.12	0.60	4,253,000	163,000	139,200	100.0	1,129,000	86.2	0	0.0
Gavins Point	1204.5	1208.0	1210.0	307,000	86,000	57,000	1207.33	-0.07	376,000	146,000	144,800	100.0	69,000	80.2	0	0.0
System Totals				56,784,000	11,639,000	4,664,000			71,380,000				11,325,000		2,783,453	
DAM INFORMATION																
Surveillance Period Triggers				Record Pool Level		Design		Top of		Design Spillway Elev.		RECENT ELEVATIONS				
Weekly	Daily	24 hour		Elev	Year	Dam Crest	Surcharge	Crest	Top of Gate			06/15 00:00	06/15 03:00	06/15 06:00	06/15 09:00	06/15 10:00
Fort Peck (FP)	2246.0	2247.0	2248.0	2252.0	1975	2280.5	2256.1	2225.0	2250.0			Fort Peck	2252.23	2252.21	2252.24	2252.26
Garrison (GA)	1850.0	1854.0	1854.8	1854.8	1975	1875.0	1858.5	1825.0	1854.0			Garrison	1853.52	1853.74	1853.67	1853.68
Oahe (OA)	1617.5	1618.7	1618.7	1618.7	1995	1680.0	1644.4	1596.5	1620.0			Oahe	1618.70	1618.57	1618.55	1618.55
Big Bend (BB)	1422.0	1422.0	1423.0	1422.1	1991	1440.0	1433.6	1385.0	1423.0			Big Bend	1419.75	1419.81	1419.84	1419.79
Fort Randall (FR)	1365.0	1370.0	1372.0	1372.2	1997	1395.0	1379.3	1346.0	1375.0			Fort Randall	1363.51	1363.54	1363.57	1363.57
Gavins Point (GP)	1210.0	1210.0	1210.7	1210.7	1960	1234.0	1221.4	1180.0	1210.0			Gavins Point	1207.33	1207.44	1207.42	1207.48



US Army Corps of Engineers®

Current Stage		NWS 5-Day Forecast Peak	
Gage	As of: 10:00	Stage	Date
Williston	29.69	29.9	16-Jun
Omaha	33.19	33.19	Steady
Nebraska City	25.60	25.60	Steady
Brownville	39.83	41.7	20-Jun
Rulo	23.62	25.4	20-Jun

Freeboard

> 5'
2' - 5'
< 2'
Freeboard Breached

6/15/2011 10:00

Missouri River Federal Levee	Stream Gage Location	Likely Range of Stage with normal precipitation (ft)	Overtop Stage Previous Estimate	Overtop Stage FreeBoard Survey	Current FreeBoard (feet)	FreeBoard w/ NWS 5-Day Forecast (feet)
Williston Levee	Williston	30	n/a	32	2.3	2.1
Omaha Levee D/S 275	Omaha	34	40	38	4.8	4.8
Omaha Flood Wall	Omaha	34	41	41	7.8	7.8
Council Bluffs Ind Levee	Omaha	34	n/a	36.8	3.6	3.6
Council Bluffs Fed Levee	Omaha	34	40	40.2	7.0	7.0
L627	Omaha	34	36	38	4.8	4.8
L624	Omaha	34	35	38	4.8	4.8
L611-614	Omaha	34	35	38	4.8	4.8
R616	Omaha	34	35	36.6	3.4	3.4
R613	Omaha	34	35	36.8	3.6	3.6
L601	Nebraska City	27	25.4	29	3.4	3.4
L594	Nebraska City	27	26	30	4.4	4.4
L575	Nebraska City	27	27	27	BREACHED	BREACHED
R573	Nebraska City	27	27	28.2	2.6	2.6
R562	Nebraska City	27	25.5	28.7	3.1	3.1
R548	Brownville	43	44	43.9	4.1	2.2
L550	Brownville	43	42.8	43.7	3.9	2.0
L536	Brownville	43	44.3	43.9	4.1	2.2
R520	Rulo	25.5	27	30	6.4	4.6

*NOTE: FreeBoard survey values may not include all low areas. Overtopping could occur at stages approximately 1 foot below surveyed value.

6/15/2011

24-hr precip totals ending 7am
June 15

State	City	
ND	Jamestown	1.72
	Valley City	0.71
SD	Aberdeen	0.69
	Sioux Falls	0.71
IA	Orange City	0.74
	Sheldon	1.22
NE	O'Neill	0.54
Southwest MN	Luverne	2.79
	Slayton	2.79
	Pipestone	1.89
	Tracy	4.84
	Windom	2.34
	Worthington	1.32

Missouri River Basin Water Management Situation Report – 6-15-11

Reservoir Conditions

The upper three reservoirs of the Missouri River Mainstem Reservoir System provide the bulk of the storage of water. All three are in their exclusive flood control zones, with Fort Peck passing its spillway crest (continuing up on raised spillway gates) and the other two being near their spillway crests. Table 1 summarizes the situation as of 0000 hours this morning. Relatively high inflows continue to occur into Fort Peck Reservoir and have increased into Garrison Reservoir from primarily rains earlier in the week. More details on the reservoirs can be found on the daily bulletin prepared by the Missouri River Basin Water Management Division at: <http://www.nwd-mr.usace.army.mil/rcc/reports/showrep.cgi?4BULLOMR1>.

Table 1. Key Reservoir Data (through 0000 hrs 6/15/11)

Reservoir	Inflow kcfs	Outflow kcfs	Top of Spillway	Current Level feet msl	24-hr Change feet
			Gates feet msl		
Fort Peck	79.0	65.8	2250	2252.2	0.1
Garrison	180.0	140.1	1854	4853.7	0.3
Oahe	156.0	150.2	1620	1618.6	0.1
Big Bend	148.0	151.5	1423	1419.7	-0.2
Fort Randall	162.0	142.1	1375	1363.5	0.4
Gavins Point	149.0	148.4	1210	1207.4	0.1

Based on the current level data on the upper three reservoirs, the amount of remaining storage has been changing in its distribution among the upper three, larger reservoirs. Fort Peck has become more negative as water is stored higher on the raised spillway gates (surcharged above exclusive flood control). With the increased releases from Fort Peck and the increase in tributary inflows, Garrison Reservoir is rising and will be going into surcharge over the next week and a half. Oahe will not be surcharged because there are no plans at this time to use its spillway, which would result in the raised gates and the potential to surcharge that reservoir. The lower three reservoirs have much less capability to store the inflows that are coming into the Missouri River Mainstem Reservoir System, with Fort Randall Reservoir having the greater amount. As of today, the stored water has not yet entered the exclusive flood control zones of the three smaller reservoirs; therefore, 100 percent of their exclusive flood control storage remains available. Table 2 summarizes the storage volumes of all six System reservoirs, with the last column listing the amount of exclusive flood control storage that remains as of today. Spillways are now being used at five of the six reservoirs, with no plans to use the Oahe spillway at this time. An issue surfaced yesterday that required the spillway at Fort Randall to be shut and the flood control tunnels to be used until some repairs can be completed sometime today.

Table 2. Reservoir Storage Data (through 0000 hrs 6/15/11)

Reservoir	Current KAF	Total KAF	Remaining KAF	Exclusive KAF	% Excl Left
Fort Peck	19,010	18,463	-547	971	-56
Garrison	23,650	23,821	171	1,489	11
Oahe	22,590	23,137	547	1,102	50
Big Bend	1,606	1,798	192	60	100
Fort Randall	4,292	5,418	1,126	985	100
Gavins Point	377	450	73	57	100

Releases from all six reservoirs are currently exceeding records prior to 2011. Table 3 provides release data for all six reservoirs to provide some perspective on the changes that will be happening over the next 2 weeks. Note that the release from Fort Peck has been increased to 65 kcfs today and will be held at that level for some of the next week before it is returned to 60 kcfs. Other than that, the releases 1 week out will be at the currently anticipated maximum releases at the other five reservoirs, with Gavins Point joining Oahe and Big Bend at 150 kcfs today. A full listing of the data through mid-July is available at: <http://www.nwd-mr.usace.army.mil/rcc/reports/twout.html>.

Table 3. Reservoir Release Comparisons (through 0000 hours 6/15/11)

Reservoir	Yesterday kcfs	Forecast Today kcfs	7 days out 20 June kcfs	14 days out 27 June kcfs	Pre-2011 Record kcfs
Fort Peck	65.8	65	60	60	35
Garrison	140.1	140	150	150	65
Oahe	150.2	150	150	150	59
Big Bend	151.5	150	150	150	74
Fort Randall	142.1	143	148	148	67
Gavins Point	148.4	150	150	150	70

River Conditions

Levees have been or are currently being constructed by the Corps at numerous locations, resulting primarily from the releases from Garrison, Oahe, and Gavins Point Dams. Many communities along the lower Missouri River are currently experiencing Missouri River flows that are above flood stage by several feet. The flood stages currently being experienced will be exceeded as Missouri River Mainstem Reservoir System releases increase over the next few weeks to pass the anticipated inflows from mountain snowpack runoff and heavy rains in the Missouri River basin. Table 4 summarizes the current conditions as of 0600 hours this morning and the Corps' current forecast for crest stages. Note that the stage at Pierre is currently just above the forecasted crest elevation for the current upstream release of 150 kcfs.

Table 4. Missouri River Stage Data for 6/15/11 at 0600 CDT

Location	Flood Stage	Current Stage	Forecast Crest Stage	Date of Crest Stage
Bismarck, ND	16	18.4	20.6	mid-Jun
Pierre, SD	13	18.8	18.7	mid-Jun
Sioux City, IA	30	32.9	35-37	mid-Jun thru July
Decatur, NE	35	37.6	40-42	mid-Jun thru July
Omaha, NE	29	33.1	34-36	mid-Jun thru July
Nebraska City, NE	18	25.5	27-28+	mid-Jun thru July
St. Joseph, MO	17	22.9	27-32	mid-Jun thru July
Kansas City, MO	32	25.1	30-39	mid-Jun thru July
Waverly, MO	20	23.8	27-31	mid-Jun thru July
Boonville, MO	21	21.0	27-33	mid-Jun thru July
Hermann, MO	21	21.7	27-33	mid-Jun thru July

Figures 1 and 2 present the plots of the 0600 hour stages at Bismarck and Pierre, respectively. The stages at Bismarck have not reached the initial estimated levels as the Garrison Reservoir releases have increased. The reduction is likely due to the scouring of the channel as the flows are well above the levels in recent years. The stages at Pierre have closely followed the estimated levels, being just slightly over the initial estimate for crest elevation, as the upstream Oahe Reservoir releases have reached the 150-kcfs level. The stages at both cities are still about 3 feet below the constructed levee crests.

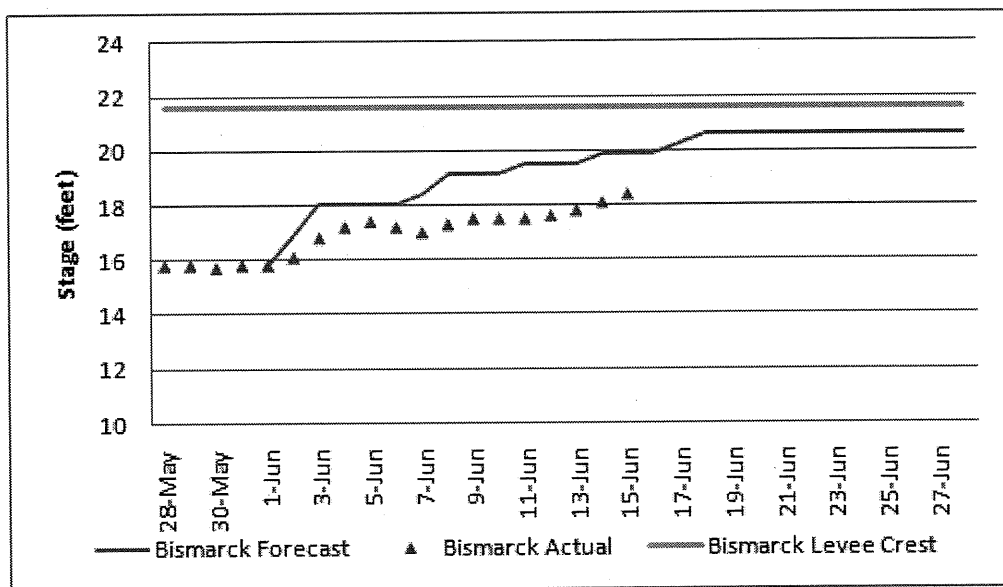


Figure 1. Missouri River stages at Bismarck, North Dakota.

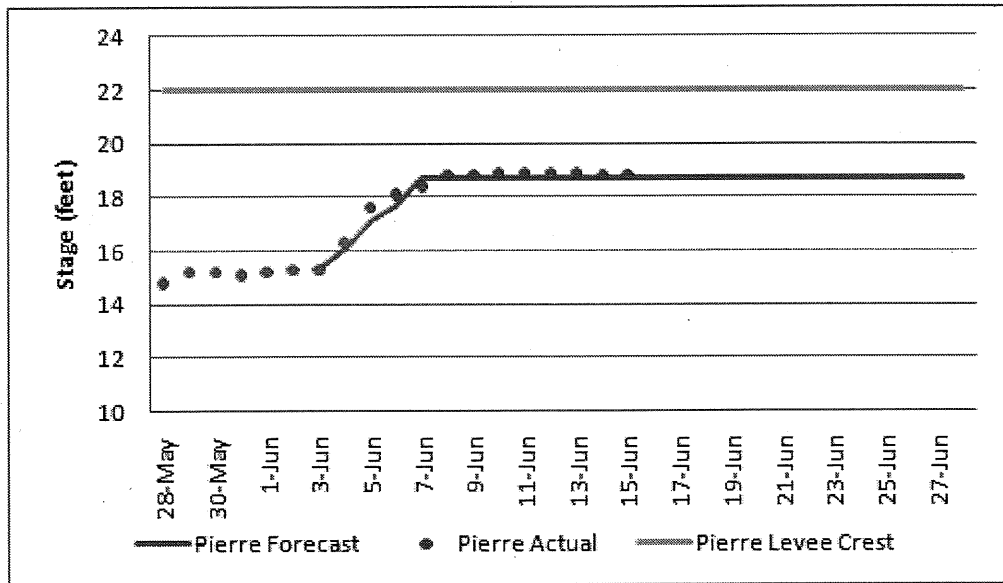


Figure 2. Missouri River stages at Pierre, South Dakota.

Information on Current Mountain Snowpack and Forecasted Rainfall

Releases from the System reservoirs are based on snowpack and rainfall forecasts in the Missouri River basin. An updated snowfall forecast has not yet been prepared today; however, the Hydrologic Prediction Center (HPC) of NOAA prepares a rainfall forecast daily for up to the next 5 days, with an accumulated figure also presented on its website. The next 5 days do not look good as widespread rain is forecasted for much of the Missouri River Basin, including heavier rainfall in North Dakota, South Dakota, and in a large area of the lower basin. Figure 3 is the accumulated 5-day rainfall forecast for today by HPC, and Figure 4 is yesterday's mountain snowpack update by the Corps.

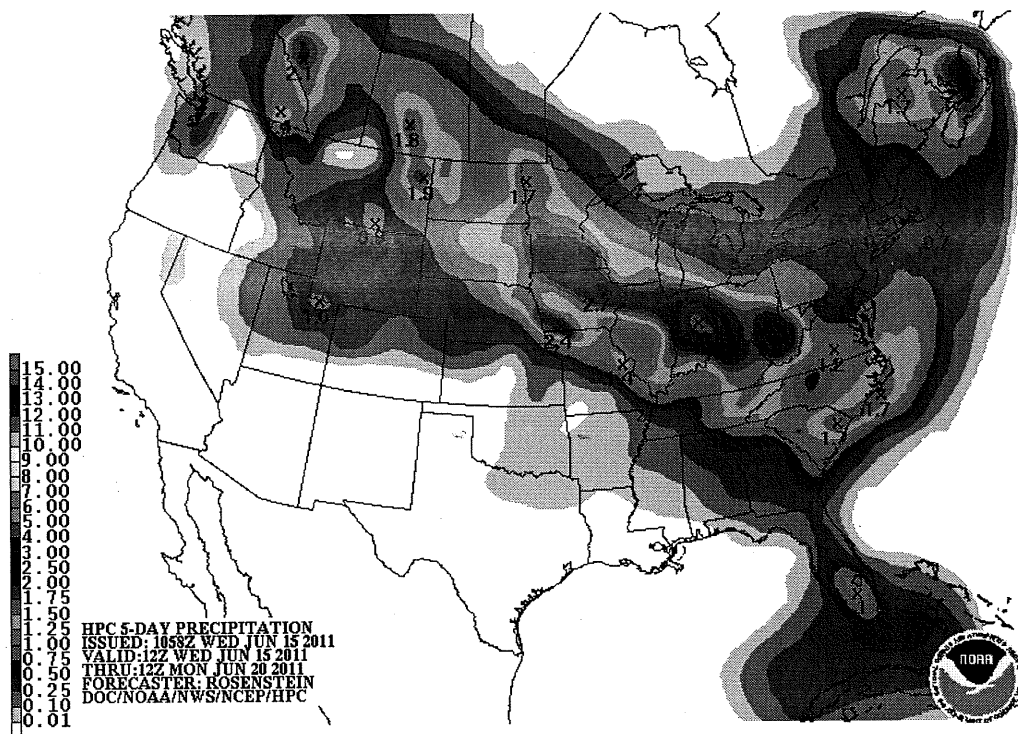


Figure 3. 5-day total QPF ending 0700 Monday, June 20, 2011.

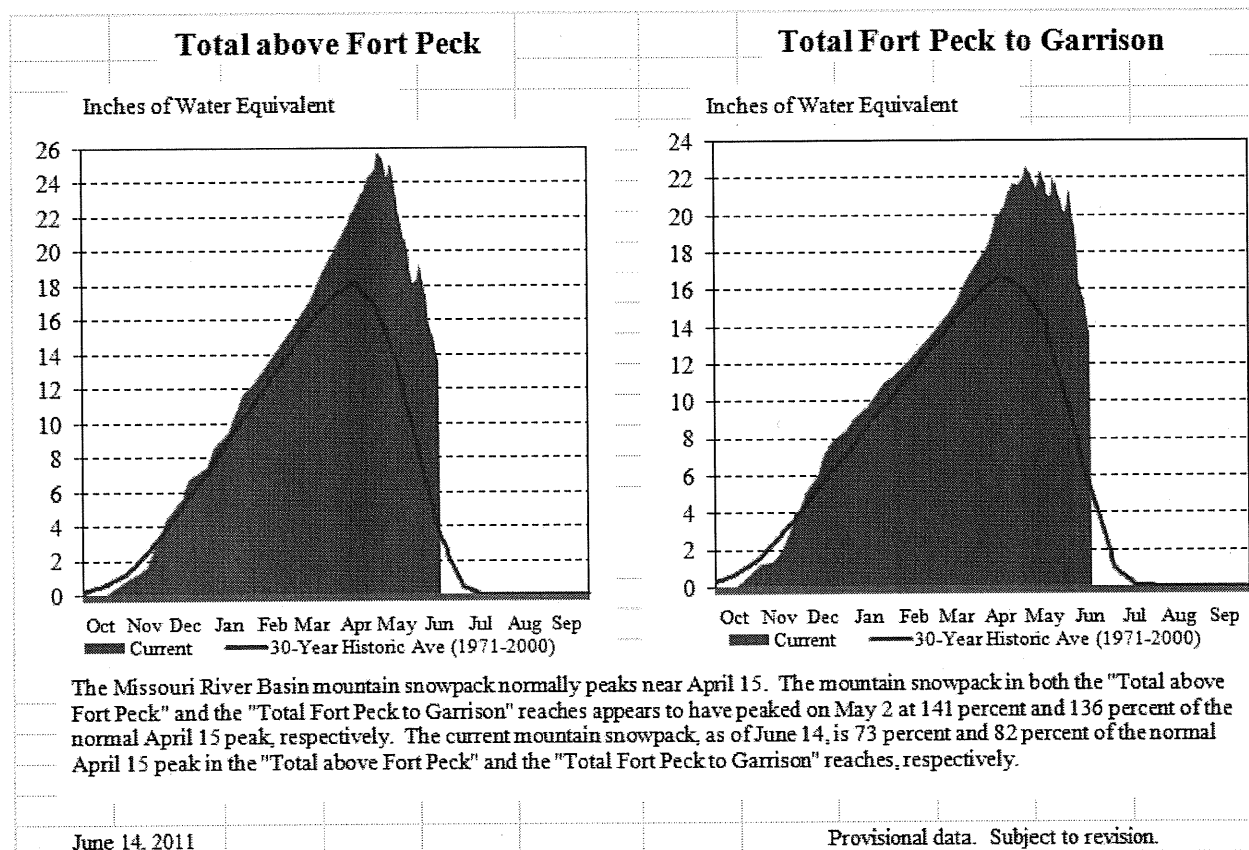


Figure 4. Missouri River basin mountain snowpack water content summary, 2010-2011 – June 14, 2011.

Current Actions and Notable Information

Levee construction for six cities is basically completed to prepare for the high flows on the Missouri River that will result from the releases from the Missouri River Mainstem System reservoirs. The Omaha District has been working with the cities of Bismarck/Mandan, ND, Pierre/Ft. Pierre, SD, Dakota Dunes, SD, and South Sioux City, NE to construct levees to limit flood impacts to those cities. Floodplain evacuations have been ongoing for many lower-lying areas along the lower Missouri River. A levee is also currently being constructed to protect Hamburg, Iowa. A full breach of a 10- to 15-foot section of the L-575 levee occurred June 13 as a result of the fourth slump in the past 2 weeks. The Hamburg levee is currently anticipated to be completed by Friday, June 17. A required closure structure is currently being placed. Also, this failure is expected to result in the closure of Interstate 29, making this major north-south highway closed above and below Omaha, Nebraska. The failure of this levee occurred at river stages just under the maximum stage in 2010.

Figure 5 is a plot showing the Nebraska City (just across the river from the upper reaches of L-575) 0600 stages for 2010 and 2011 (through today), both years with high river stages. This figure shows that the river level is getting very close to the 2010 maximum (still 0.24 feet below).

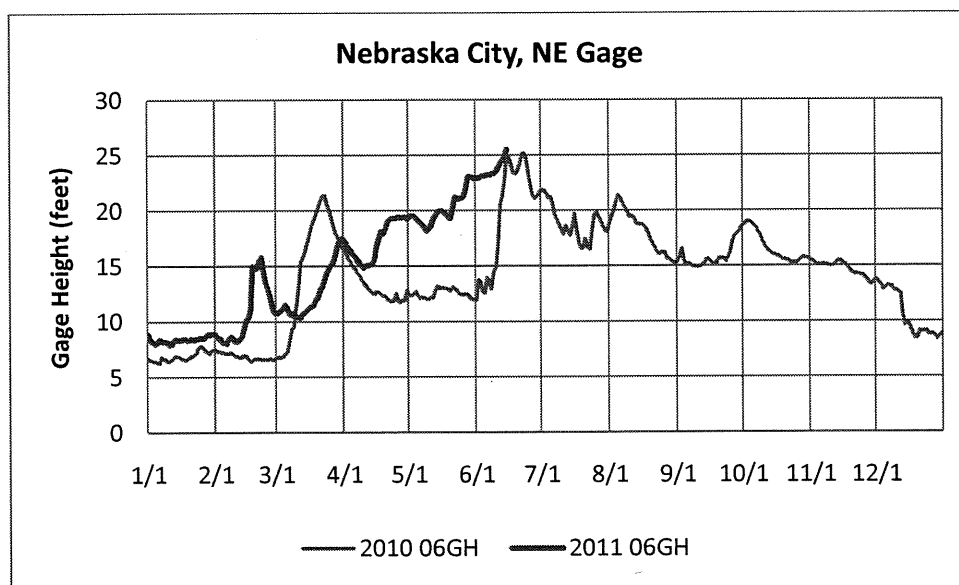


Figure 5. River stages at Nebraska City, Nebraska for 2010 and 2011.

A second levee failed at Big Lake, Missouri Monday, June 13. This location is across the river from Rulo, Nebraska. The gage plot for this location is shown below as Figure 6. Another factor, such as duration of water against the levee or back-to-back years with water against the levee appears to be playing a role in the failure of this levee as well as the levee near Hamburg.

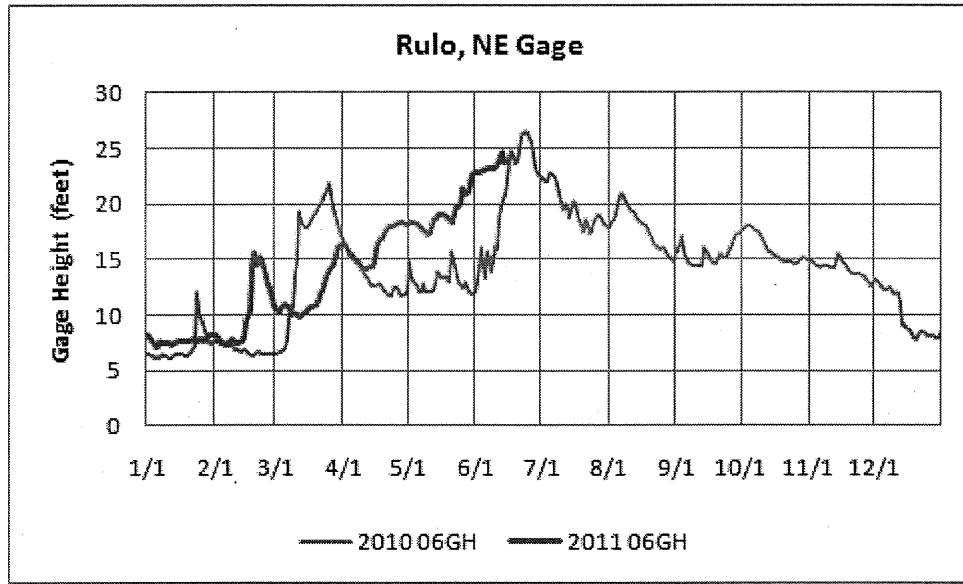


Figure 6. River stages at Rulo, Nebraska for 2010 and 2011.

Southeastern North Dakota and north central South Dakota experienced heavy rains yesterday and over night. Much of this rainfall will drain primarily into Lake Oahe and the James and Big Sioux Rivers that empty into the Missouri River downstream from Gavins Point Dam. Figure 7 shows the amount of rain that fell in the basin and surrounding area of the Central Region of the United States.

NWS Central Region: Current 1-Day Observed Precipitation
Valid at 6/15/2011 1200 UTC- Created 6/15/11 17:41 UTC

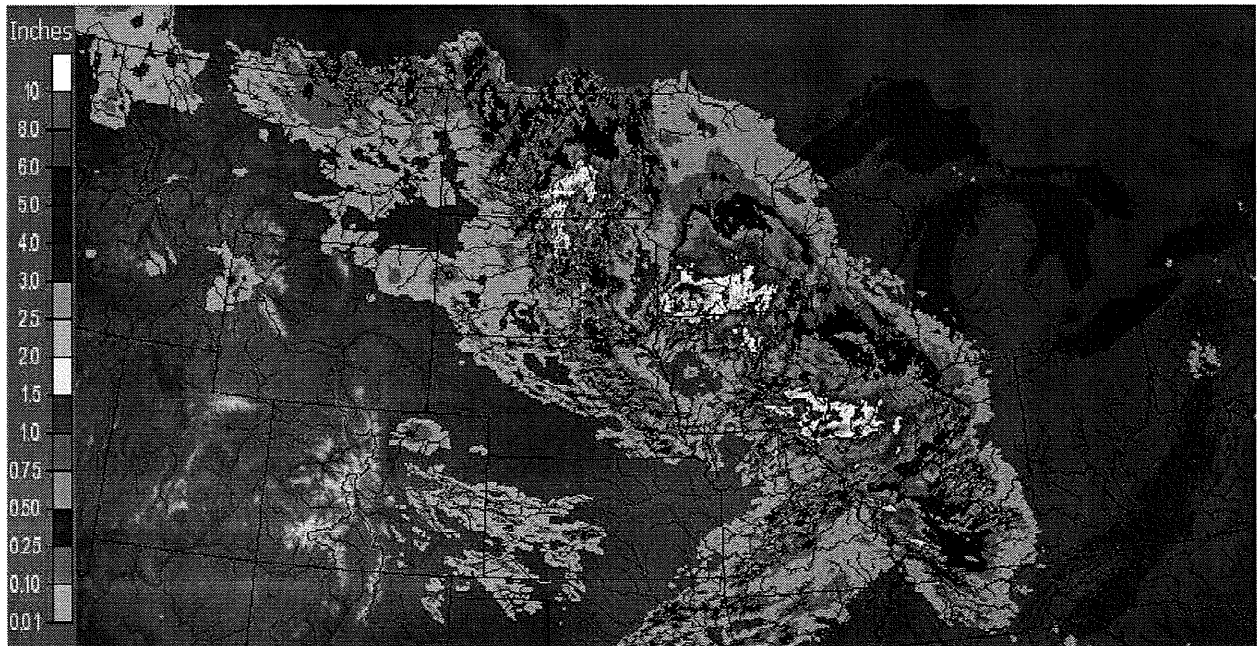


Figure 7. Rainfall on the Central Region of the United States for June 15, 2011.

NWO

From: [REDACTED] NWK
Sent: Wednesday, June 15, 2011 7:24 PM
To: Farhat, Jody S NWD02
Cc: O'Hara, Thomas A NWO; Farmer, Monique L NWO
Subject: Re: request for additional ESF-15 personnel in KC (UNCLASSIFIED)

Oh, that explains it! I was trying to update NWK's flood fight folders based off the same documents we had from last year.

Thx!

[REDACTED]
Outreach Specialist
U.S. Army Corps of Engineers
Office: [REDACTED]
Cell: [REDACTED]
[\[REDACTED\]@usace.army.mil](mailto:[REDACTED]@usace.army.mil)

----- Original Message -----

From: Farhat, Jody S NWD02
To: Farmer, Monique L NWO; O'Hara, Thomas A NWO
Cc: [REDACTED] NWK
Sent: Wed Jun 15 16:30:50 2011
Subject: RE: request for additional ESF-15 personnel in KC (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Can I ask why? We didn't run either pulse this year so am wondering who needs it and why.

-----Original Message-----

From: Farmer, Monique L NWO
Sent: Wednesday, June 15, 2011 4:27 PM
To: O'Hara, Thomas A NWO; Farhat, Jody S NWD02
Cc: [REDACTED] NWK
Subject: RE: request for additional ESF-15 personnel in KC (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Jody:

Please provide the most recent version of the Spring Pulse Como Plan for 2011.

Thanks,

Monique

-----Original Message-----

From: O'Hara, Thomas A NWO
Sent: Wednesday, June 15, 2011 4:17 PM
To: Farmer, Monique L NWO
Cc: [REDACTED] NWK
Subject: FW: request for additional ESF-15 personnel in KC

Monqiue

Do you know where this com plan is Trish is referring to?

(Currently working Missouri Floodflight efforts. I will reply to your email as I can)

BUILDING STRONG®

Thomas A. O'Hara III

Executive Officer

Omaha District, U.S. Army Corps of Engineers

1616 Capitol Avenue, Suite 9000

(Attn: CENWO-EX-XA)

Omaha, NE 68102-4901

402-995-2004

thomas.a.ohara@usace.army.mil

-----Original Message-----

From: [REDACTED] NWK

Sent: Wednesday, June 15, 2011 4:12 PM

To: O'Hara, Thomas A NWO

Subject: RE: request for additional ESF-15 personnel in KC

Any chance you can find me the 2011 Gavins Point Spring Pulses Communication Plan? I have 2010, but looking for all updated info.

Thx!

Classification: UNCLASSIFIED

Caveats: NONE

Classification: UNCLASSIFIED

Caveats: NONE

[REDACTED] NWO

From: [REDACTED] NWD02
Sent: Wednesday, June 15, 2011 5:58 PM
To: [REDACTED] NWD02; Farhat, Jody S NWD02
Subject: Precipitation Graphics (UNCLASSIFIED)

Classification: UNCLASSIFIED

Caveats: NONE

One-month precipitation departures

http://www.cpc.ncep.noaa.gov/products/analysis_monitoring/regional_monitoring/1-month-archive.shtml

Three-month precipitation departures

http://www.cpc.ncep.noaa.gov/products/analysis_monitoring/regional_monitoring/3-month-archive.shtml

[REDACTED]
USACE, Northwestern Division
Missouri Basin Water Management Division

[REDACTED]
[\[REDACTED\]@usace.army.mil](mailto:[REDACTED]@usace.army.mil)

Classification: UNCLASSIFIED

Caveats: NONE

[REDACTED] NWO

From: [REDACTED] NWD02
Sent: Wednesday, June 15, 2011 5:47 PM
To: Farhat, Jody S NWD02
Subject: Snowpack Slide - Month by Month (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

I made some changes ... v:\public\Flood_2011> Mountain Snowpack - Month by Month.pptx

[REDACTED]
Reservoir Regulation Team Lead
Missouri River Basin Water Management,
Northwestern Division, USACE

[REDACTED] (fax)

Classification: UNCLASSIFIED
Caveats: NONE

NWO

From: [REDACTED] NWD02 on behalf of Management, Missouri Water NWD02
Sent: Wednesday, June 15, 2011 5:29 PM
To: Farhat, Jody S NWD02
Subject: FW: Cargill Inc - Blair Nebraska (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

FYI.

[REDACTED] 5.
Reservoir Regulation Team Lead
Missouri River Basin Water Management,
Northwestern Division, USACE
[REDACTED]
[REDACTED] (fax)

-----Original Message-----

From: [Monty Gartin@cargill.com](mailto:Monty.Gartin@cargill.com) [mailto:Monty.Gartin@cargill.com]
Sent: Wednesday, June 15, 2011 4:43 PM
To: Management, Missouri Water NWD02
Subject: Cargill Inc - Blair Nebraska

To Jody Farhat and/or Staff,

We are Cargill Corn Milling in Blair Nebraska, our site is a bio-refinery which includes 6 joint ventures and has an assets value over 2 billion dollars. We have been working with the Army Corps of Engineers from the Omaha District daily. Our relationship with the Corps of engineers has been very positive and we look forward to more interactions.

We recently met with Randall Behm to help us understand the potential impact of the current release to our site. This meeting helped us to better understand the science and the protocols used to manage the current situation on the Missouri river. Randall discussed with us his role and his understanding of the Corps future release plans.

We know how busy you are, but we would also like to meet with you or a senior member of your staff to better understand future plans and release scenarios. We have created a 3.5 mile berm around our site, but are still very concerned with the economic impact to our customers and the state of Nebraska if we shutdown.

We would like to invite you to our campus for a formal review and discussion on our mutual goals around the safety and well being of our site and community. We look forward to working with the Army Corps of Engineers in a positive and proactive manor. If coming to Blair is not feasible, we are very willing to come to you.

Thank you on behalf of our employees and community,

Monty G. Gartin

Build, operate, and maintain RIGHT to become the partner of choice.

Monty Gartin | Health, Safety & Security Team Leader | Cargill Corn Milling 650 Industrial
Park Drive | Blair, NE 68008 | 402-533-1381 | Cell 402-306-3709 | monty_gartin@cargill.com

cid:609003111@05022009-1FD7 Caring Leadership > Systems Excellence > Injury Free Lifestyle

Classification: UNCLASSIFIED

Caveats: NONE

NWO

Subject: Below Garrison discharge measurement for June 15

This measurement was in made in a different location than previous.

NWO

From: Blair, Amy E NWK
Sent: Wednesday, June 15, 2011 5:07 PM
To: Hofmann, Anthony J COL NWK; [REDACTED] NWK; Farhat, Jody S NWD02
Subject: FW: Request for USACE representative for Teletown Hall tomorrow evening at 8:15 ET (UNCLASSIFIED)

Classification: UNCLASSIFIED

Caveats: NONE

Sir,

Is this do-able for you and Jud? I've confirmed with Jody that she can call in at that time. Realize this might be tight depending on how the CG call goes.

From: Brainard, Colin [mailto:Colin.Brainard@mail.house.gov]
Sent: Wednesday, June 15, 2011 5:03 PM
To: Blair, Amy E NWK
Subject: RE: Request for USACE representative for Teletown Hall tomorrow evening at 8:15 ET (UNCLASSIFIED)

Amy,

Would it be possible for the USACE folks to call in a little bit early, at 8:05 et / 7:05 ct, to have a brief coordinating discussion with Congresswoman Jenkins, Governor Brownback, and the rest of the agencies?

Thanks!

-Colin

From: Brainard, Colin
Sent: Wednesday, June 15, 2011 5:14 PM
To: 'Blair, Amy E NWK'
Subject: RE: Request for USACE representative for Teletown Hall tomorrow evening at 8:15 ET (UNCLASSIFIED)

Amy,

At the beginning of tonight's call, Governor Brownback will introduce each agency. We ask that at this time Col. Hoffman speak briefly (1-2 minutes) on the situation and the USACE efforts. Each other agency involved on the call will do the same.

Thanks!

-Colin

From: Blair, Amy E NWK [mailto:Amy.E.Blair@usace.army.mil]
Sent: Tuesday, June 14, 2011 5:01 PM
To: Brainard, Colin
Subject: RE: Request for USACE representative for Teletown Hall tomorrow evening at 8:15 ET (UNCLASSIFIED)

Classification: UNCLASSIFIED

Caveats: NONE

Clarification - Both COL Hofmann/Jud and Jody Farhat?

From: Brainard, Colin [mailto:Colin.Brainard@mail.house.gov]
Sent: Tuesday, June 14, 2011 4:00 PM
To: Blair, Amy E NWK
Subject: RE: Request for USACE representative for Teletown Hall tomorrow evening at 8:15 ET (UNCLASSIFIED)

Thank you, Amy. The host line number is:

877-229-8523; PIN = 33996

We will get you a more formal invite soon.

-Colin

From: Blair, Amy E NWK [mailto:Amy.E.Blair@usace.army.mil]
Sent: Tuesday, June 14, 2011 4:35 PM
To: Brainard, Colin
Subject: RE: Request for USACE representative for Teletown Hall tomorrow evening at 8:15 ET (UNCLASSIFIED)

Classification: UNCLASSIFIED

Caveats: NONE

They plan to be on one line, but Jody Farhat from our Reservoir Control Central will be participating and that is a separate line.

From: Brainard, Colin [mailto:Colin.Brainard@mail.house.gov]
Sent: Tuesday, June 14, 2011 3:34 PM
To: Blair, Amy E NWK
Subject: RE: Request for USACE representative for Teletown Hall tomorrow evening at 8:15 ET (UNCLASSIFIED)

Amy, do you know if Col. Hoffman and Mr. Kneuen plan to call from the same line, or separate lines?

I ask because we need to know how many host lines to obtain for the call. Thanks!

-Colin

From: Blair, Amy E NWK [mailto:Amy.E.Blair@usace.army.mil]
Sent: Tuesday, June 14, 2011 2:23 PM
To: Brainard, Colin
Cc: Leopold, Pat; Calderon, Kathy
Subject: RE: Request for USACE representative for Teletown Hall tomorrow evening at 8:15 ET (UNCLASSIFIED)

Classification: UNCLASSIFIED

Caveats: NONE

Colin,

COL Anthony Hofmann, District Engineer of the Kansas City District and ~~██████████~~, Chief of Emergency Management will plan to participate.

Please let me know how they should plan to call in.

Thanks.

From: Brainard, Colin [mailto:Colin.Brainard@mail.house.gov]
Sent: Tuesday, June 14, 2011 12:26 PM
To: Blair, Amy E NWK
Cc: Leopold, Pat; Calderon, Kathy
Subject: RE: Request for USACE representative for Teletown Hall tomorrow evening at 8:15 ET (UNCLASSIFIED)

Amy,

Rep. Jenkins and Gov. Brownback will act as moderators during the call. The purpose of the call is for residents of Northeast Kansas to have a forum to ask questions of USACE, FEMA, and relevant state agencies to educate them. Since that is the case, we are hoping that at the beginning of the call after a brief introductory remarks from the Congresswoman and Governor, USACE and FEMA representatives will each give a very brief outline of the situation and an update of where everything stands. The remainder of the call will be dedicated to question and answer time. We imagine that most questions will be directed towards Col. Hoffman, the FEMA representatives, and the state agencies.

Since you are familiar with the teletown format, you know that our office will be screening calls to ensure both quality and variety. Rep. Jenkins and Gov. Brownback will be on the call the entire time to act as moderators.

Let us know if you need any other information.

-Colin

From: Blair, Amy E NWK [mailto:Amy.E.Blair@usace.army.mil]
Sent: Tuesday, June 14, 2011 12:40 PM
To: Brainard, Colin
Cc: Leopold, Pat; Calderon, Kathy
Subject: RE: Request for USACE representative for Teletown Hall tomorrow evening at 8:15 ET (UNCLASSIFIED)

Classification: UNCLASSIFIED

Caveats: NONE

Colin, as I am trying to get Colonel Hofmann to participate, I'd like some more information about what your expectation from USACE is - what do you want us to talk about, details.

While I am familiar with the teletown hall format personally, I'd like to hear your interpretation so that I might better prepare our Commander with my request. Thanks.

From: Brainard, Colin [mailto:Colin.Brainard@mail.house.gov]
Sent: Tuesday, June 14, 2011 11:18 AM
To: Blair, Amy E NWK
Cc: Leopold, Pat; Calderon, Kathy
Subject: RE: Request for USACE representative for Teletown Hall tomorrow evening at 8:15 ET (UNCLASSIFIED)

Amy,

Thanks for your prompt reply. I will let you know if we need additional information, and we are looking forward to working with you on the upcoming call.

-Colin

From: Blair, Amy E NWK [mailto:Amy.E.Blair@usace.army.mil]
Sent: Tuesday, June 14, 2011 12:13 PM
To: Brainard, Colin
Cc: Leopold, Pat; Calderon, Kathy
Subject: RE: Request for USACE representative for Teletown Hall tomorrow evening at 8:15 ET (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE
Thanks, Colin.

I had been trying to follow up with Melissa, and I am glad you have reached out. I will see if we can get a liaison and let you know.

Please let me know if there is anything I can do to help provide you more information for you or your boss.

From: Brainard, Colin [mailto:Colin.Brainard@mail.house.gov]
Sent: Tuesday, June 14, 2011 11:04 AM
To: Blair, Amy E NWK
Cc: Leopold, Pat; Calderon, Kathy
Subject: Request for USACE representative for Teletown Hall tomorrow evening at 8:15 ET

Amy,

Thank you again for Col. Hoffman's participation in last Friday's windshield tour of the lower Missouri River communities with Rep. Jenkins and Rep. Graves.

I want to inform you that Congresswoman Jenkins and Governor Brownback will be hosting a teletown hall tomorrow evening from 8:15 p.m. ET for approximately one hour regarding flooding of the lower Missouri River and affected areas in Northeast Kansas.

We would like to invite a representative of the USACE Kansas City District to participate in the call and answer questions if needed. We also plan on inviting representatives from FEMA to answer questions about possible disaster assistance and NFIP.

Please let us know if Col. Hoffman or another Corps representative can participate. Thank you in advance.

Colin C. Brainard
Legislative Assistant
Rep. Lynn Jenkins, CPA

Classification: UNCLASSIFIED
Caveats: NONE

Classification: UNCLASSIFIED
Caveats: NONE

Classification: UNCLASSIFIED
Caveats: NONE

Classification: UNCLASSIFIED
Caveats: NONE

Classification: UNCLASSIFIED

From: Farhat, Jody S NWD02
Sent: Wednesday, June 15, 2011 4:54 PM
To: Farhat, Jody S NWD02; McMahon, John R BG NWD; Tipton, Robert A Col NWD; [REDACTED] NWD; Ruch, Robert J COL NWO; [REDACTED] NWK; Blechinger, Erik T NWO; [REDACTED] NWD; [REDACTED] NWK; Blair, Amy E NWK; Williamson, Eileen L NWO; Farmer, Monique L NWO; Johnston, Paul T HQ@ NWO; [REDACTED] NWD; [REDACTED] NWD; [REDACTED] NWD; [REDACTED] NWD02; [REDACTED] NWD; [REDACTED] NWO; [REDACTED] NWO; [REDACTED]
M SAW
Cc: [REDACTED] NWD02; [REDACTED] NWD02; [REDACTED] NWO; [REDACTED] NWD02; [REDACTED] NWD02; [REDACTED] NWD02; [REDACTED] NWD02; [REDACTED] NWO; [REDACTED] NWD02
Subject: RE: WM Talking Points for 15 June stakeholder call (UNCLASSIFIED)
Attachments: 2011 Missouri River Flood Talking Points 15 Jun 2011.docx

Classification: UNCLASSIFIED
Caveats: NONE

FYI

Classification: UNCLASSIFIED
Caveats: NONE

2011 Missouri River Flood Talking Points
Missouri River Water Management
15 June 2011

We posted the updated reservoir forecast to the web this afternoon. The only adjustment once again was in releases was at Fort Randall where we continue to adjust releases to manage the Gavins Point pool level.

We will continue to make these small intrasystem adjustments throughout the summer to best balance the reservoir levels and releases. The anticipated peak releases remain the same: 65,000 cfs at Fort Peck, and 150,000 cfs at the lower 5 dams: Garrison, Oahe, Big Bend, Fort Randall and Gavins Point.

The release schedule for the 6 dams are as follows:

- Fort Peck –Releases remain at 65,000 cfs today and will be held at that level through the weekend. We expect to reduce those releases back to 60,000 cfs next week as inflows drop off.
- Garrison –140,000 cfs today, increasing to 145,000 cfs on Thursday and reaching the peak release of 150,000 cfs on Friday.
- Oahe and Big Bend –Releases will remain at the peak level of 150,000 cfs.
- Fort Randall – 143,000 cfs today and tomorrow, gradually stepping up to the peak release of approximately 148,000 cfs with the schedule dependent on the Gavins Point pool level.
- Gavins Point – reached the peak release of 150,000 cfs yesterday and will remain at that level.

Peak releases are expected to continue well into August.

The forecast is based on best available information at this time; actual releases are based on conditions on the ground and are subject to change.

The mountain snowpack continues to decline.

Above Fort Peck: peaked at 141 percent of the normal peak accumulation, currently at 70%

Fort Peck to Garrison: peaked at 136 percent of the normal peak accumulation, currently at 78%

North Platte: peaked at 156 percent of the normal peak accumulation, currently at 60% ydy

South Platte: peaked at 150 percent of the normal peak accumulation, currently at 59% ydy

NWO

From: Kevin Low [Kevin.Low@noaa.gov]
Sent: Wednesday, June 15, 2011 4:50 PM
To: [REDACTED] NWD02
Cc: Blechinger, Erik T NWO; Farhat, Jody S NWD02; [REDACTED] NWK
Subject: Re: FW: St. Louis District Press Conference Tomorrow Regarding Missouri River (UNCLASSIFIED)

Thank you Kevin for you assistance in this matter.

Kevin Low, P.E.
NOAA National Weather Service
Missouri Basin River Forecast Center

On 6/15/2011 4:17 PM, Grode, Kevin R NWD02 wrote:

> Classification: UNCLASSIFIED
> Caveats: NONE
>
> Erik,
>
> The Kansas City District, in collaboration with the National Weather
> Service Office and the MRBWM office, agreed to the following
> description regarding the low flow and high flow scenarios and as the
> 3 bullets of information used in developing range projections. It is posted on the NWK
external website:
>
> <http://www.nwk.usace.army.mil/Flood/SitRep/2011ProjectedMORiverWSEs-K>
> CD%206-
> 15.pdf
>
> We're hoping that you will be able to coordinate this information with
> MVS PAO for their press conference tomorrow morning so that the
> National Weather Service and the Corps offices will be in sync. Thanks.
>
> - [REDACTED]
>
> [REDACTED]
> Reservoir Regulation Team Lead
> Missouri River Basin Water Management, Northwestern Division, USACE
> [REDACTED]
> [REDACTED] (fax)
>
> -----Original Message-----
> From: [REDACTED] NWD02
> Sent: Wednesday, June 15, 2011 10:24 AM
> To: Blechinger, Erik T NWO
> Cc: Farhat, Jody S NWD02
> Subject: St. Louis District Press Conference Tomorrow Regarding
> Missouri River (UNCLASSIFIED)
>
> Classification: UNCLASSIFIED
> Caveats: NONE
>
> Erik,

>
> FYI. I heard from a colleague at the National Weather Service that
> St. Louis District was planning a press conference tomorrow morning.
> The areas highlighted in yellow indicate verbiage that is not quite in
> line with what we're telling folks through the NWO, NWK and MRBWM websites.

>
> [REDACTED]
> Reservoir Regulation Team Lead
> Missouri River Basin Water Management, Northwestern Division, USACE
> [REDACTED]
> [REDACTED] (fax)

>
>
> Classification: UNCLASSIFIED
> Caveats: NONE

>
>
> Classification: UNCLASSIFIED
> Caveats: NONE

NWO

From: McMahon, John R BG NWD
Sent: Wednesday, June 15, 2011 4:46 PM
To: Grisoli, William T MG HQ02; [REDACTED] NWD; Farhat, Jody S NWD02
Cc: [REDACTED] HQ; Stokes, Debra J HQ02; Ruch, Robert J COL NWO
Subject: Re: June 13th Meeting Follow Up

Sir:
Jody, Witt and I had a good call with Anne today--we walked her thru the data available on the NWD Missouri River website in answer to Q1 and Q3, and owe her links to the NWS and NCRS websites where we pull data from, in response to Q2. We briefly discussed the article as well. Once we provide some additional info to Anne today, we'll be mission complete including follow up to your discussion with Rep Noem yesterday, pending any additional questions from Anne. All good.
Vr/John

From: Grisoli, William T MG HQ02
To: 'Anne.Thimsen@mail.house.gov' <Anne.Thimsen@mail.house.gov>
Cc: [REDACTED] HQ; Stokes, Debra J HQ02; McMahon, John R BG NWD; Ruch, Robert J COL NWO
Sent: Wed Jun 15 10:46:05 2011
Subject: Re: June 13th Meeting Follow Up

Ann, will do...I spoke to BG McMahon and Col Ruch and they are developing the info the Rep requested and will come back to you.

We will also review the article and provide some thoughts.
I am on the road, so I will have the Div/ Dist contact you and I will follow up soonest.
V/R, Bill
Sent from BB

From: Thimsen, Anne <Anne.Thimsen@mail.house.gov>
To: Grisoli, William T MG HQ02
Cc: [REDACTED] HQ; Stokes, Debra J HQ02
Sent: Wed Jun 15 11:14:56 2011
Subject: June 13th Meeting Follow Up

Major General Grisoli,

Thank you for taking the time to meet with us on Monday afternoon.

I wanted to follow up with you in regards to questions Representative Noem asked during our meeting. If you could provide answers to the following, it would be greatly appreciated:

- . Historical data on releases for the past 15 years for Montana, North Dakota, and South Dakota (broken down by individual dam)
- . Historical data on rainfall and snowpack for the past 15 years for Montana, North Dakota, and South Dakota (broken down individually)
- . Elevation levels on all dams for the same time period

I have also attached an article from yesterday's Pierre Capital Journal. Representative Noem would like your comments on this article as well as the communications between your office(s) and Fort Pierre Public Works Direct Brad Lawrence since January, 2011.

We look forward to hearing from you.

Regards,

Anne Thimsen

Legislative Assistant

Congresswoman Kristi Noem (SD - AL)

226 Cannon Building

Washington, DC 20515

202-225-2801

Pierre Cap Journal: Email warned of 'biblical flood'

February messages urged earlier release

By Ruth Brown

ruth.brown@capjournal.com

Published/Last Modified on Tuesday, Jun 14, 2011 - 06:05:19 am CDT

FORT PIERRE – In a series of emails sent to a Washington D.C. agency in February, Fort Pierre Public Works Director Brad Lawrence essentially predicted "a flood of biblical proportions" if the U.S. Army Corps of engineers did not start releasing water from the Oahe Dam, the Capital Journal has learned.

In a series of emails sent to Kevin Morley of the American Water Works Association, Lawrence said, "The Corps of Engineers has failed thus far to evacuate enough water from the main stem reservoirs to meet normal runoff conditions. This year's runoff will be anything but normal. This is compounded by the anticipated flooding downstream."

And in a chillingly accurate summation, Lawrence said in a Feb. 3 document, "The Corps will hold back water to help alleviate the downstream flooding, filling the reservoirs to capacity in the process. Once full, they will pass everything that comes in."

That grim prediction has become reality as the Corps has been forced to release 150,000 cubic feet per second from the reservoir, which is within several inches of the top of the spillway. The result has been millions of dollars in costs to construct levees in Fort Pierre and Pierre, the displacement of dozens of people and severe economic impact to both cities. Water has intruded into parks and neighborhoods and currently threatens millions of dollars of real estate in affluent sections of Fort Pierre.

The Capital Journal obtained Lawrence's emails pursuant to a South Dakota Freedom of Information request filed with the city of Fort Pierre. The emails (see accompanying box with excerpts of the date and content) were among several sent to Morley, security and preparedness program manager for AWWA, in February to warn of his concerns about potential flooding.

But according to the Army Corps of Engineers no one at the Omaha office, which coordinates activities on the Missouri River system, was ever forwarded those emails.

"We had no correspondence with Fort Pierre during that time that I know of," said Jody Farhat, chief of the Missouri River basin water management office for the USACE.

Even though the Corps may not have been aware of Lawrence's dire prediction, those emails were forwarded by Morley to every WARN state chair in the nation.

Lawrence, who is the South Dakota WARN chair, said although he did not send that information to the Corps, he finds it "hard to believe that it wouldn't have gotten passed on to the Corps."